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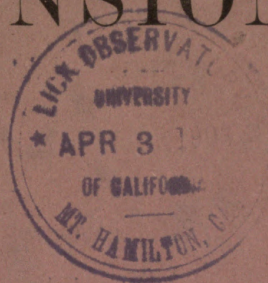


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# RIGHT ASCENSIONS

OF



## ADDITIONAL TIME-STARS

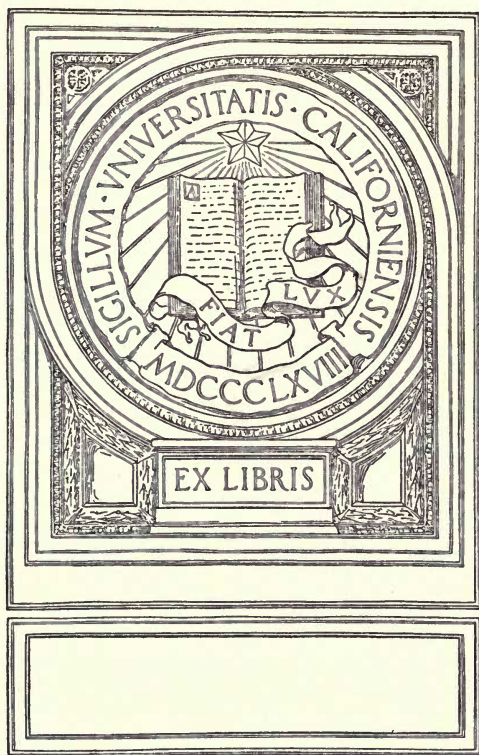
1881-1884

WITH MEAN PLACES FOR 1884.0

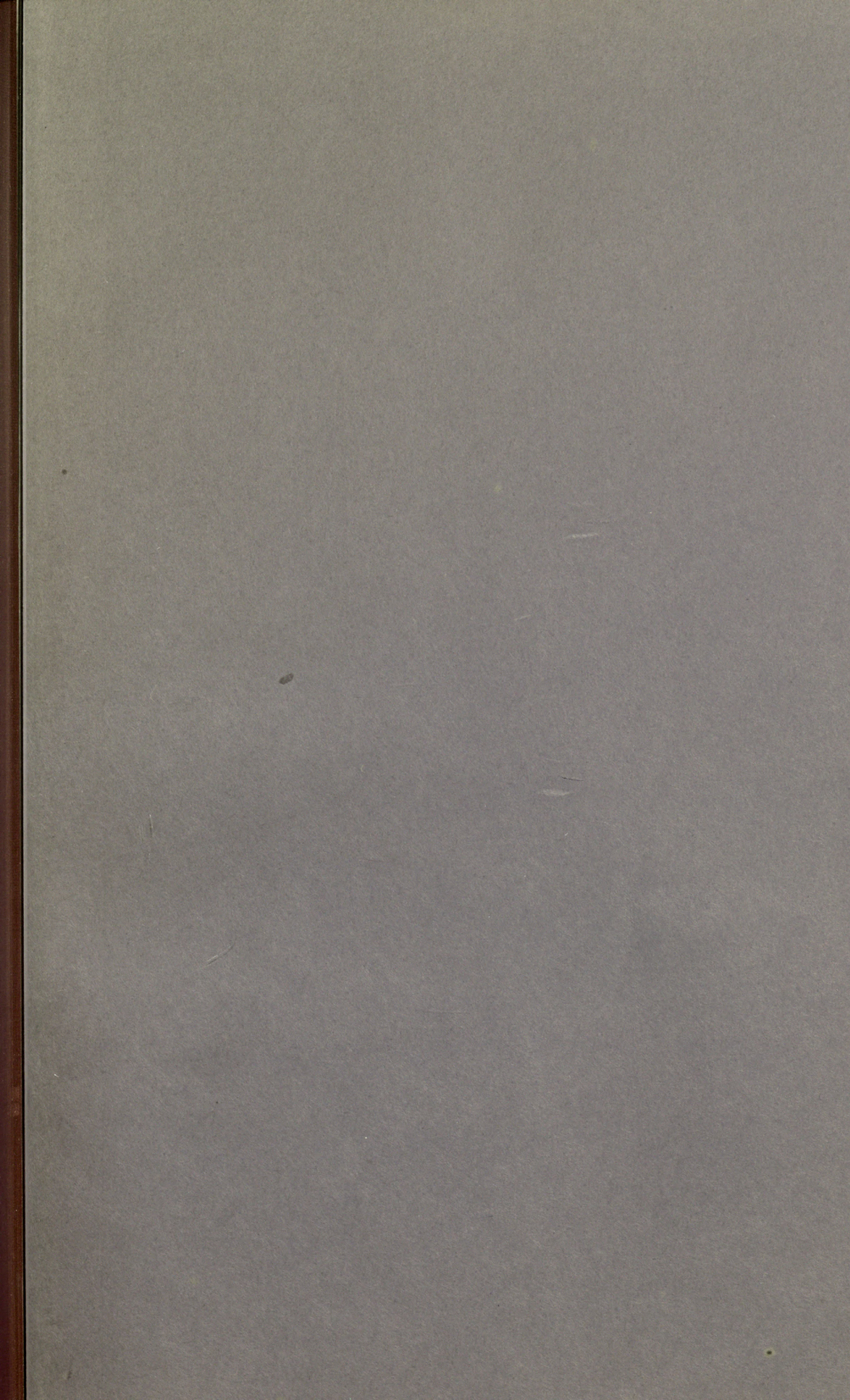
A SUPPLEMENT TO THE AMERICAN EPHEMERIS AND NAUTICAL ALMANAC FOR 1884.

WASHINGTON  
BUREAU OF NAVIGATION

1882



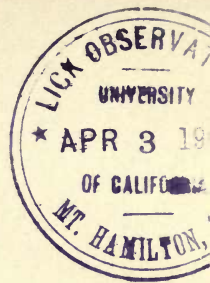


















U. S. Nautical Almanac Office.

APPARENT

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528.1: A 512  
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# RIGHT ASCENSIONS

OF

## ADDITIONAL TIME-STARS

UNIV. OF  
CALIFORNIA

1881-1884

WITH MEAN PLACES FOR 1884.0

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A SUPPLEMENT TO THE AMERICAN EPHEMERIS AND NAUTICAL ALMANAC FOR 1884

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WASHINGTON  
BUREAU OF NAVIGATION  
1882







## INTRODUCTION.

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IN *The American Ephemeris* for 1882 the list of fixed stars was greatly enlarged in order to supply the constantly growing wants of field-observers engaged in the determination of geographical positions. The stars added were designed for both time and azimuth, the latter including southern as well as northern circumpolar stars. The list of mean places was, at the same time, so arranged as to serve the purpose of a working field-catalogue, by repeating the positions of the northern circumpolar stars for the lower culmination.

It was intended to include partial ephemerides of the apparent positions of these stars in the annual volumes of the large *Ephemeris*. This, however, was not practicable previous to the preparation of the volume for 1885, and the present supplement fills the want for the four years immediately preceding.

The ephemerides are confined to the right ascensions, and to those periods of the year during which the several stars can be conveniently observed on the meridian. Roughly speaking, the periods are those during which the culmination occurs between six o'clock and midnight.

The mean places have been derived from a variety of sources, and are not to be regarded as definitive. In one or two cases they may be considerably in error, but it is believed that the great body of them are amply adequate for field-work.

SIMON NEWCOMB,  
*Professor U. S. Navy, Superintendent.*

NAUTICAL ALMANAC OFFICE,  
NAVY DEPARTMENT,  
1882, *June.*

M102843

# INTRODUCTION

The purpose of this book is to provide a comprehensive survey of the history of the United States from 1776 to 1876. The book is divided into three parts: the first part covers the period from 1776 to 1800, the second part covers the period from 1800 to 1840, and the third part covers the period from 1840 to 1876. The book is written in a clear and concise style, and it is suitable for use as a textbook in a history course. The book is also suitable for use as a reference work for anyone interested in the history of the United States.

The first part of the book covers the period from 1776 to 1800. This period is characterized by the struggle for independence from Britain, the establishment of the new government, and the early years of the Republic. The second part of the book covers the period from 1800 to 1840. This period is characterized by the expansion of the United States, the development of the economy, and the growth of the population. The third part of the book covers the period from 1840 to 1876. This period is characterized by the Civil War, the Reconstruction era, and the final years of the Republic.

THE END OF THE WORLD



# FIXED STARS, 1884.

MEAN PLACES FOR 1884.0. (January 0<sup>d</sup>.227, Washington.)

Name of Star.	Magni- tude.	Right Ascension.			Annual Variation.	Declination.	Annual Variation.
<i>α</i> Andromedæ . . .	2.0	<sup>h</sup> 0	<sup>m</sup> 2	<sup>s</sup> 23.570	+ 3.0904	+ 28° 26' 59.77"	+ 19.885
* <i>β</i> Cassiopeæ . . .	2.0	0	2	59.559	3.1712	+ 58 30 34.70	19.852
* 22 Andromedæ . . .	5.3	0	4	17.671	3.1005	+ 45 25 35.48	20.036
4 Draconis (H.) . . S. P.	4.7	0	6	45.458	2.8927	+ 101 44 20.88	20.023
<i>γ</i> Pegasi ( <i>Algenib</i> ) . .	2.7	0	7	15.787	3.0832	+ 14 32 18.90	20.025
* <i>σ</i> Andromedæ . . .	4.3	0	12	16.185	+ 3.1217	+ 36 8 31.04	+ 19.985
* <i>ι</i> Ceti . . .	3.3	0	13	30.911	3.0529	— 9 28 2.26	19.959
* 6 Ursæ Minoris . . S. P.	6.0	0	14	19.604	0.1015	+ 91 39 24.92	19.941
* 44 Piscium . . .	6.0	0	19	27.372	3.0729	+ 1 17 49.90	19.955
<i>β</i> Hydri . . .	3.0	0	19	38.137	3.2394	— 77 54 27.51	20.287
12 Ceti . . .	6.0	0	24	7.122	+ 3.0610	— 4 35 54.11	+ 19.941
<i>κ</i> Draconis . . . S. P.	3.3	0	28	31.666	2.5948	+ 109 34 20.21	19.893
* <i>π</i> Andromedæ . . .	4.0	0	30	41.196	3.1893	+ 33 4 49.90	19.875
<i>α</i> Cassiopeæ ( <i>var.</i> ) . .	2.5	0	33	55.816	3.3708	+ 55 54 3.28	19.794
<i>β</i> Ceti . . .	2.0	0	37	46.007	3.0146	— 18 37 24.94	19.807
21 Cassiopeæ . . .	6.0	0	38	0.099	+ 3.8487	+ 74 21 13.54	+ 19.757
* <i>ο</i> Cassiopeæ . . .	5.0	0	38	15.835	3.3170	+ 47 38 57.20	19.759
* <i>δ</i> Piscium . . .	4.3	0	42	39.846	3.1069	+ 6 57 12.56	19.654
32 <sup>2</sup> Camelop. (H.) . . S. P.	4.7	0	48	17.133	0.3810	+ 95 57 23.66	19.597
* <i>γ</i> Cassiopeæ . . .	2.0	0	49	42.816	3.5751	+ 60 5 17.56	19.570
* <i>μ</i> Andromedæ . . .	4.0	0	50	18.993	+ 3.3094	+ 37 52 11.77	+ 19.623
* 43 Cephei (H.) . . .	4.3	0	53	4.993	7.1600	+ 85 38 2.96	19.517
<i>ε</i> Piscium . . .	4.0	0	56	55.386	3.1085	+ 7 15 55.13	19.461
<i>β</i> Andromedæ . . .	2.3	1	3	14.365	3.3427	+ 35 0 18.71	19.173
* <i>f</i> Piscium . . .	5.0	1	11	48.925	3.0893	+ 3 0 11.51	19.042
* <i>κ</i> Tucanæ . . .	5.0	1	11	50.076	+ 2.0562	— 69 29 32.19	+ 19.176
<i>α</i> Ursæ Minoris ( <i>Polaris</i> )	2.0	1	16	14.291	22.3000	+ 88 41 24.87	18.954
<i>θ</i> <sup>1</sup> Ceti . . .	3.0	1	18	13.507	2.9969	— 8 46 56.18	18.677
38 Cassiopeæ . . .	6.3	1	22	36.683	4.3699	+ 69 40 1.19	18.689
<i>η</i> Piscium . . .	3.7	1	25	16.611	3.2018	+ 14 44 50.78	18.674
* <i>υ</i> Andromedæ . . .	4.0	1	29	59.504	+ 3.5024	+ 40 49 29.65	+ 18.157
* <i>π</i> Piscium . . .	5.7	1	30	56.983	3.1698	+ 11 32 52.18	18.537
<i>α</i> Eridani ( <i>Achernar</i> ) . .	1.0	1	33	23.299	2.2331	— 57 49 34.97	18.364
* <i>ν</i> Piscium . . .	4.7	1	35	23.705	3.1174	+ 4 54 0.61	18.340
<i>ο</i> Piscium . . .	4.3	1	39	16.123	3.1617	+ 8 34 23.94	18.228
* <i>ζ</i> Ceti . . .	3.0	1	45	44.077	+ 2.9617	— 10 54 33.92	+ 17.835
<i>β</i> Arietis . . .	3.0	1	48	13.970	3.3025	+ 20 14 25.69	17.741
50 Cassiopeæ . . .	4.0	1	53	32.803	5.0008	+ 71 51 32.97	17.666
* <i>γ</i> Andromedæ . . .	2.3	1	56	46.891	3.6583	+ 41 46 20.71	17.457
<i>α</i> Arietis . . .	2.0	2	0	38.124	3.3699	+ 22 54 47.96	17.188
<i>α</i> Draconis . . . S. P.	3.3	2	1	14.989	+ 1.6235	+ 115 4 10.48	+ 17.306
* <i>β</i> Trianguli . . .	3.0	2	2	38.607	3.5529	+ 34 26 16.59	17.219
<i>ξ</i> <sup>1</sup> Ceti . . .	4.3	2	6	51.144	+ 3.1734	+ 8 18 7.04	17.044
* 4 Ursæ Minoris . . S. P.	5.0	2	9	18.981	— 0.3311	+ 101 54 26.51	16.909
* <i>γ</i> Trianguli . . .	4.3	2	10	25.205	+ 3.5494	+ 33 18 36.08	16.861
* 67 Ceti . . .	6.0	2	11	11.834	+ 2.9891	— 6 57 26.60	+ 16.746
<i>ι</i> Cassiopeæ . . .	4.0	2	19	30.997	4.8551	+ 66 52 47.54	16.456
* <i>δ</i> Hydri . . .	4.0	2	19	41.290	1.0532	— 69 11 14.67	16.456
<i>ξ</i> <sup>2</sup> Ceti . . .	4.0	2	21	59.538	+ 3.1831	+ 7 56 21.92	16.310
5 Ursæ Minoris . . S. P.	4.7	2	27	46.958	— 0.1967	+ 103 47 18.08	+ 16.011

MEAN PLACES FOR 1884.0. (January 0<sup>d</sup>.227, Washington.)

Name of Star.	Magni- tude.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
* $\delta$ Ceti . . . . .	4.0	<sup>h</sup> 2 <sup>m</sup> 33 <sup>s</sup> 32.234	+ 3.0723	— 0° 10' 21.87"	+ 15.713
* $\mu$ Hydri . . . . .	6.0	2 34 9.191	— 1.4496	— 79 36 54.31	15.675
* $\theta$ Persei . . . . .	4.0	2 36 16.857	+ 4.0670	+ 48 44 12.62	15.470
$\gamma$ Ceti . . . . .	3.3	2 37 17.408	+ 3.1023	+ 2 44 46.48	15.356
* $\sigma$ Arietis . . . . .	5.7	2 45 5.336	+ 3.3036	+ 14 36 11.68	15.026
* 47 Cephei (H.) . . . . .	6.0	2 50 42.566	+ 7.6971	+ 78 57 29.90	+ 14.738
$\beta$ Ursæ Minoris . . S. P.	2.0	2 51 3.227	— 0.2366	+ 105 22 13.64	14.718
* $\epsilon$ Arietis . . . . .	4.3	2 52 34.805	+ 3.4200	+ 20 52 32.23	14.625
$\alpha$ Ceti . . . . .	2.3	2 56 12.958	+ 3.1298	+ 3 38 1.95	14.327
* $\beta$ Persei ( <i>Algol</i> ) ( <i>var.</i> )	2.7	3 0 37.398	+ 3.8817	+ 40 30 27.53	14.143
48 Cephei (H.) . . . . .	6.3	3 5 38.309	+ 7.3875	+ 77 18 23.47	+ 13.775
$\zeta$ Arietis . . . . .	4.7	3 8 14.081	+ 3.4384	+ 20 36 49.20	13.577
$\alpha$ Persei . . . . .	2.0	3 16 2.722	+ 4.2548	+ 49 26 49.70	13.120
* $\iota$ Hydri . . . . .	5.0	3 18 52.288	— 1.6091	— 77 48 41.55	13.017
$\gamma^2$ Ursæ Minoris . . S. P.	3.0	3 20 55.223	— 0.1377	+ 107 45 11.67	12.811
* $f$ Tauri . . . . .	4.0	3 24 28.137	+ 3.3042	+ 12 32 17.78	+ 12.585
$\epsilon$ Eridani . . . . .	3.0	3 27 27.919	+ 2.8233	— 9 51 5.41	12.412
$\delta$ Persei . . . . .	3.3	3 34 40.157	+ 4.2477	+ 47 24 55.24	11.838
* $\gamma$ Camelopardalis (H.)	4.3	3 38 7.714	+ 6.2297	+ 70 58 22.63	11.586
$\eta$ Tauri . . . . .	3.0	3 40 35.371	+ 3.5559	+ 23 44 43.34	11.404
$\zeta$ Persei . . . . .	3.0	3 46 50.496	+ 3.7590	+ 31 32 16.53	+ 10.976
$\zeta$ Ursæ Minoris . . S. P.	4.3	3 48 13.479	— 2.2624	+ 101 50 57.28	10.907
* $\gamma$ Hydri . . . . .	3.3	3 49 2.751	— 1.0026	— 74 35 39.11	10.975
* $\epsilon$ Persei . . . . .	3.3	3 50 4.236	+ 4.0084	+ 39 40 24.14	10.750
$\gamma$ Eridani . . . . .	3.0	3 52 37.080	+ 2.7983	— 13 50 21.67	10.465
* A <sup>1</sup> Tauri . . . . .	4.7	3 57 50.299	+ 3.5391	+ 21 45 49.27	+ 10.108
* $c$ Persei . . . . .	4.0	4 0 14.552	+ 4.3352	+ 47 24 5.03	9.971
Groombr. 2320 . . S. P.	6.3	4 6 0.350	+ 0.1376	+ 111 53 2.87	9.499
* $\sigma^1$ Eridani . . . . .	4.3	4 6 12.191	+ 2.9264	— 7 8 27.76	9.638
$\gamma$ Tauri . . . . .	4.0	4 13 11.557	+ 3.4083	+ 15 20 47.26	8.984
* $\eta$ Ursæ Minoris . . S. P.	5.0	4 20 54.388	— 1.8226	+ 103 58 40.10	+ 8.149
$\epsilon$ Tauri . . . . .	3.7	4 21 50.605	+ 3.4968	+ 18 55 19.19	8.284
$\eta$ Draconis . . . S. P.	2.7	4 22 25.420	+ 0.8053	+ 118 13 22.98	8.228
* $m$ Persei . . . . .	6.0	4 25 15.291	+ 4.2087	+ 42 48 52.70	8.036
* $\delta$ Mensæ . . . . .	6.0	4 25 51.052	— 4.2399	— 80 29 3.40	8.013
A Draconis . . . S. P.	5.0	4 28 12.991	— 0.1372	+ 110 58 51.88	+ 7.797
$\alpha$ Tauri ( <i>Aldebaran</i> ) . .	1.0	4 29 15.890	+ 3.4367	+ 16 16 29.85	7.542
* $\tau$ Tauri . . . . .	4.3	4 35 16.987	+ 3.5947	+ 22 43 59.28	7.213
$\alpha$ Camelopardalis . .	4.7	4 42 31.276	+ 5.9213	+ 66 8 36.90	6.650
* $i$ Tauri . . . . .	5.3	4 44 35.314	+ 3.5048	+ 18 38 28.24	6.434
$\iota$ Aurigæ . . . . .	3.0	4 49 26.413	+ 3.8999	+ 32 58 52.00	+ 6.056
* $\zeta$ Aurigæ . . . . .	4.0	4 54 22.235	+ 4.1841	+ 40 54 18.22	5.658
$\epsilon$ Ursæ Minoris . . S. P.	4.3	4 57 53.645	— 6.3484	+ 97 46 25.49	5.370
11 Orionis . . . . .	5.0	4 57 56.434	+ 3.4239	+ 15 14 28.82	5.326
* $\beta$ Eridani . . . . .	3.0	5 2 8.824	+ 2.9483	— 5 14 14.67	4.950
$\alpha$ Aurigæ ( <i>Capella</i> ) . .	1.0	5 8 7.244	+ 4.4238	+ 45 52 42.41	+ 4.066
$\beta$ Orionis ( <i>Rigel</i> ) . .	1.0	5 8 57.791	+ 2.8811	— 8 20 11.99	4.423
* $\tau$ Orionis . . . . .	4.0	5 11 58.432	+ 2.9123	— 6 58 15.31	4.160
$\beta$ Tauri . . . . .	2.0	5 18 57.561	+ 3.7888	+ 28 30 29.23	3.392
Groombridge 966 . .	6.3	5 24 13.562	+ 7.9967	+ 74 57 51.10	+ 3.137



MEAN PLACES FOR 1884.0. (January 0<sup>d</sup> 227, Washington.)

Name of Star.	Magni- tude.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
		<sup>h</sup> <sup>m</sup> <sup>s</sup>	<sup>s</sup>	° ' "	"
* Groombridge 944. . . . .	6.3	5 24 56.518	+ 18.6191	+ 85° 8' 4.61	+ 3.067
* $\chi$ Aurigæ . . . . .	5.0	5 25 10.750	+ 3.9045	+ 32 6 18.49	3.055
$\delta$ Orionis ( <i>var.</i> ) . . . . .	2.5	5 26 4.830	+ 3.0632	- 0 23 9.96	2.952
$\alpha$ Leporis . . . . .	3.0	5 27 36.850	+ 2.6446	- 17 54 22.49	2.824
$\epsilon$ Orionis . . . . .	2.0	5 30 19.640	+ 3.0421	- 1 16 37.46	2.590
$\alpha$ Columbæ . . . . .	2.0	5 35 26.976	+ 2.1726	- 34 8 12.20	+ 2.099
$\omega$ Draconis . . . . S. P.	5.0	5 37 37.927	- 0.3544	+ 111 11 18.91	1.630
* $\kappa$ Orionis . . . . .	2.7	5 42 15.272	+ 2.8447	- 9 42 42.71	1.554
* $\nu$ Aurigæ . . . . .	4.0	5 43 26.994	+ 4.1540	+ 39 6 46.69	1.483
$\phi^1$ Draconis . . . . S. P.	4.3	5 44 0.155	- 1.0801	+ 107 47 40.74	1.672
* $\delta$ Doradus . . . . .	4.3	5 44 34.127	+ 0.1043	- 65 46 44.18	+ 1.329
$\alpha$ Orionis ( <i>var.</i> ) . . . . .	1.2	5 48 53.503	+ 3.2468	+ 7 23 3.34	0.979
* $\beta$ Aurigæ . . . . .	2.0	5 51 1.202	+ 4.4015	+ 44 56 2.44	0.775
* $\theta$ Aurigæ . . . . .	3.0	5 51 48.704	+ 4.0918	+ 37 12 10.99	+ 0.628
$\nu$ Orionis . . . . .	4.7	6 0 56.980	+ 3.4273	+ 14 46 51.92	- 0.113
22 Camelopardalis (H.) . . . .	4.7	6 6 3.497	+ 6.6179	+ 69 21 29.64	- 0.648
* $\eta$ Geminorum . . . . .	3.3	6 7 52.563	+ 3.6227	+ 22 32 21.07	0.705
$\delta$ Ursæ Minoris . . . S. P.	4.3	6 9 44.395	- 19.4505	+ 93 23 23.15	0.902
$\mu$ Geminorum . . . . .	3.0	6 15 56.585	+ 3.6315	+ 22 34 18.49	1.515
* $\phi^1$ Aurigæ . . . . .	5.3	6 15 57.857	+ 4.6267	+ 49 20 43.67	1.406
$\alpha$ Argus ( <i>Canopus</i> ) . . . . .	1.0	6 21 22.704	+ 1.3303	- 52 37 57.49	- 1.859
* $\nu$ Geminorum . . . . .	4.7	6 22 4.511	+ 3.5631	+ 20 17 3.44	1.951
* $\chi$ Draconis . . . . S. P.	4.0	6 23 8.812	- 1.0791	+ 107 19 4.38	1.645
$\gamma$ Geminorum . . . . .	2.3	6 31 0.638	+ 3.4675	+ 16 29 49.52	2.752
* $\epsilon$ Geminorum . . . . .	3.3	6 36 47.685	+ 3.6936	+ 25 14 40.98	3.219
* $\phi^5$ Aurigæ . . . . .	5.7	6 38 22.601	+ 4.3294	+ 43 41 29.02	- 3.195
$\alpha$ Canis Majoris ( <i>Sirius</i> ) . . . .	1.0	6 40 2.197	+ 2.6437	- 16 33 28.49	4.692
* $\theta$ Geminorum . . . . .	3.3	6 45 8.607	+ 3.9609	+ 34 5 59.40	3.957
51 Cephei (H.) . . . . .	5.3	6 45 45.652	+ 30.0340	+ 87 13 29.46	4.070
* $\zeta$ Mensæ . . . . .	5.8	6 49 40.879	- 4.8934	- 80 41 21.98	4.232
50 Draconis . . . . S. P.	6.0	6 50 6.497	- 1.9050	+ 104 42 12.40	- 4.424
$\epsilon$ Canis Majoris . . . . .	1.7	6 54 4.043	+ 2.3576	- 28 48 54.30	4.699
* $\zeta$ Geminorum ( <i>var.</i> ) . . . . .	4.0	6 57 13.747	+ 3.5627	+ 20 44 21.14	4.974
$\delta$ Canis Majoris . . . . .	2.0	7 3 40.485	+ 2.4384	- 26 12 35.08	5.490
* 63 Aurigæ . . . . .	5.0	7 3 40.542	+ 4.1373	+ 39 30 30.62	5.481
* 25 Camelopardalis . . . . .	4.7	7 6 36.827	+ 12.9850	+ 82 37 51.43	- 5.778
* $\gamma^2$ Volantis ( <i>var.</i> ) . . . . .	4.7	7 9 43.832	- 0.4853	- 70 18 36.16	5.887
$\delta$ Draconis . . . . S. P.	3.0	7 12 31.559	+ 0.0308	+ 112 32 33.02	6.326
$\delta$ Geminorum . . . . .	3.3	7 13 11.691	+ 3.5884	+ 22 11 40.99	6.312
$\tau$ Draconis . . . . S. P.	4.7	7 17 46.714	- 1.1138	+ 106 51 36.82	6.784
Piazzi vii. 67 . . . . .	6.0	7 18 48.185	+ 6.3033	+ 68 42 2.27	- 6.797
* $\beta$ Canis Minoris . . . . .	3.0	7 20 51.595	+ 3.2599	+ 8 31 18.96	6.967
$\alpha^2$ Geminorum ( <i>Castor</i> ) . . . . .	1.7	7 27 11.900	+ 3.8392	+ 32 8 30.39	7.524
$\alpha$ Canis Min. ( <i>Procyon</i> ) . . . . .	1.0	7 33 13.760	+ 3.1437	+ 5 31 16.66	8.971
$\beta$ Geminorum ( <i>Pollux</i> ) . . . . .	1.3	7 38 13.019	+ 3.6800	+ 28 18 18.88	8.390
$\lambda$ Ursæ Minoris . . . S. P.	6.3	7 39 59.774	- 63.3185	+ 91 2 48.82	- 8.485
* 26 Lyncis . . . . .	6.0	7 46 15.766	+ 4.3898	+ 47 51 50.02	8.989
* Groombridge 1374 . . . . .	5.7	7 46 17.254	+ 7.2958	+ 74 13 31.96	9.004
$\phi$ Geminorum . . . . .	5.0	7 46 23.843	+ 3.6807	+ 27 3 53.90	9.003
$\epsilon$ Draconis . . . . S. P.	3.7	7 48 33.524	- 0.1768	+ 110 1 39.03	- 9.175



MEAN PLACES FOR 1884.0. (January 0<sup>d</sup>.227, Washington.)

Name of Star.	Magni- tude.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
* $\omega^1$ Cancri . . . . .	6.0	<sup>h</sup> 7 <sup>m</sup> 53 <sup>s</sup> 54.724	+ 3.6380	+ 25° 42' 33".94	— 9.554
3 Ursæ Majoris (H.) . .	5.7	8 1 15.521	+ 6.0555	+ 68 48 49.43	10.120
15 Argus ( $\iota$ ) . . . . .	3.0	8 2 36.243	+ 2.5544	— 23 58 14.19	10.178
* $\zeta^1$ Cancri . . . . .	4.7	8 5 33.517	+ 3.4470	+ 17 59 45.69	10.580
* $\beta$ Cancri . . . . .	3.7	8 10 13.428	+ 3.2589	+ 9 32 31.15	10.835
$\kappa$ Cephei ( <i>pr.</i> ) . . S. P.	4.3	8 12 46.473	— 1.9141	+ 102 38 18.41	— 11.007
* 30 Monocerotis . . . .	3.7	8 19 51.822	+ 3.0002	— 3 31 43.74	11.467
* $\theta$ Chamæleontis . . . .	4.7	8 24 5.857	— 1.7015	— 77 6 34.90	11.772
$\eta$ Cancri . . . . .	5.7	8 26 0.023	+ 3.4790	+ 20 50 3.43	11.982
Groombr. 3241 . S. P.	6.3	8 30 29.970	— 0.2162	+ 107 51 40.99	12.223
* $\sigma$ Hydræ . . . . .	5.0	8 32 41.711	+ 3.1462	+ 3 44 52.15	— 12.414
* $\gamma$ Cancri . . . . .	4.3	8 36 34.346	+ 3.4812	+ 21 53 4.98	12.704
$\epsilon$ Hydræ . . . . .	3.3	8 40 37.977	+ 3.1822	+ 6 50 36.85	12.986
* $\alpha^2$ Cancri ( <i>mean</i> ) . . . .	5.7	8 47 9.936	+ 3.6746	+ 31 1 4.09	13.386
$\iota$ Ursæ Majoris . . . .	3.0	8 51 15.660	+ 4.1358	+ 48 29 46.12	13.881
12 Year Cat. 1879 . S. P.	6.0	8 52 48.899	— 2.5320	+ 99 53 0.29	— 13.698
$\sigma^2$ Ursæ Majoris . . . .	5.0	9 0 10.364	+ 5.3621	+ 67 36 15.34	14.246
$\kappa$ Cancri . . . . .	5.0	9 1 27.853	+ 3.2563	+ 11 8 3.58	14.273
* $\theta$ Hydræ . . . . .	4.0	9 8 19.751	+ 3.1265	+ 2 48 10.47	15.001
* $\beta$ Argus . . . . .	1.5	9 11 55.341	+ 0.6796	— 69 14 22.00	14.802
$\iota$ Argus . . . . .	2.0	9 13 58.967	+ 1.6013	— 58 47 18.63	— 14.990
* $\alpha$ Lynceis . . . . .	3.3	9 13 59.130	+ 3.6705	+ 34 52 55.58	15.008
$\alpha$ Cephei . . . . S. P.	2.7	9 15 48.636	+ 1.4369	+ 117 54 20.56	15.165
1 Draconis (H.) . . . .	4.3	9 20 27.657	+ 9.0418	+ 81 50 14.52	15.406
$\alpha$ Hydræ . . . . .	2.0	9 21 53.230	+ 2.9492	— 8 9 23.13	15.438
$d$ Ursæ Majoris . . . .	4.7	9 24 12.294	+ 5.4099	+ 70 20 20.62	— 15.535
$\theta$ Ursæ Majoris . . . .	3.0	9 25 5.542	+ 4.0442	+ 52 12 18.59	16.200
* 10 Leonis Minoris . . . .	4.7	9 27 6.902	+ 3.6957	+ 36 54 42.69	15.765
$\beta$ Cephei ( <i>pr.</i> ) . . S. P.	3.0	9 27 9.535	+ 0.7960	+ 109 56 54.45	15.753
* $\alpha$ Leonis . . . . .	3.7	9 34 57.539	+ 3.2074	+ 10 25 9.89	16.208
* $\zeta$ Chamæleontis . . . .	5.0	9 37 15.707	— 1.5466	— 80 25 11.19	— 16.294
$\epsilon$ Leonis . . . . .	3.0	9 39 15.939	+ 3.4161	+ 24 18 27.82	16.411
11 Cephei . . . . S. P.	5.0	9 40 13.220	+ 0.9030	+ 109 13 21.17	16.535
$\mu$ Leonis . . . . .	4.0	9 46 9.905	+ 3.4231	+ 26 33 9.68	16.782
* 19 Leonis Minoris . . . .	5.3	9 50 34.627	+ 3.6973	+ 41 36 26.59	16.947
79 Draconis . . . . S. P.	6.3	9 51 25.255	+ 0.7317	+ 106 50 47.02	— 17.010
* $\pi$ Leonis . . . . .	5.0	9 54 4.982	+ 3.1748	+ 8 36 0.74	17.127
$\alpha$ Leonis ( <i>Regulus</i> ) . . . .	1.3	10 2 11.624	+ 3.2012	+ 12 32 1.18	17.463
32 Ursæ Majoris . . . .	6.0	10 9 35.905	+ 4.4270	+ 65 41 10.55	17.796
* $\lambda$ Ursæ Majoris . . . .	3.3	10 10 5.839	+ 3.6417	+ 43 29 34.37	17.860
$\gamma^1$ Leonis . . . . .	2.0	10 13 34.579	+ 3.3157	+ 20 25 40.26	— 18.076
* $\mu$ Hydræ . . . . .	4.0	10 20 28.868	+ 2.9005	— 16 14 41.13	18.302
* $\beta$ Leonis Minoris . . . .	4.3	10 21 10.396	+ 3.4882	+ 37 18 4.25	18.304
* $\alpha$ Antlæ . . . . .	4.0	10 21 50.644	+ 2.7386	— 30 28 40.52	18.209
9 Draconis (H.) . . . .	4.7	10 25 12.648	+ 5.2779	+ 76 18 35.44	18.378
$\rho$ Leonis . . . . .	4.0	10 26 42.198	+ 3.1646	+ 9 54 11.13	— 18.423
226 Cephei (B.) . . S. P.	5.3	10 30 14.067	+ 1.0793	+ 104 22 16.80	18.526
* 41 Leonis Minoris . . . .	5.7	10 37 6.457	+ 3.2717	+ 23 47 43.11	18.730
$\eta$ Argus ( <i>var.</i> ) . . . .	1-6	10 40 33.712	+ 2.3123	— 59 4 29.50	18.865
$l$ Leonis . . . . .	5.3	10 43 9.592	+ 3.1590	+ 11 9 31.24	— 18.965



MEAN PLACES FOR 1884.0. (January 0<sup>d</sup> 227, Washington.)

Name of Star.	Magni- tude.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
		<sup>h</sup> <sup>m</sup> <sup>s</sup>	<sup>s</sup>	<sup>°</sup> <sup>'</sup> <sup>"</sup>	<sup>"</sup>
* δ <sup>2</sup> Chamæleontis . . .	5.0	10 44 40.686	+ 0.6122	— 79 55' 42".70	— 19.002
ι Cephei . . . S. P.	3.3	10 45 33.074	2.1206	+ 114 24 34.60	18.872
* 46 Leonis Minoris . .	4.0	10 46 49.339	3.3710	+ 34 50 24.24	19.288
* Groombridge 1706 . .	6.0	10 50 38.479	4.9870	+ 78 23 28.53	19.170
α Ursæ Majoris . . .	2.0	10 56 33.643	+ 3.7518	+ 62 22 37.16	19.357
* η Octantis . . . . .	6.0	11 0 4.870	— 0.2788	— 83 58 12.04	— 19.409
* p <sup>3</sup> Leonis . . . . .	6.0	11 0 59.196	+ 3.0622	+ 2 35 5.37	19.482
* φ Ursæ Majoris . . .	3.3	11 3 8.304	3.3953	+ 45 7 38.63	19.499
δ Leonis . . . . .	2.3	11 7 56.309	3.1990	+ 21 9 32.51	19.681
* ν Ursæ Majoris . . .	3.3	11 12 12.803	3.2589	+ 33 43 37.51	19.569
δ Crateris . . . . .	3.3	11 13 32.517	+ 2.9960	— 14 9 3.83	— 19.460
ο Cephei . . . . S. P.	5.3	11 13 52.009	2.4417	+ 112 31 22.78	19.666
τ Leonis . . . . .	5.0	11 21 58.297	3.0862	+ 3 29 41.78	19.799
λ Draconis . . . . .	3.3	11 24 30.253	3.6274	+ 69 58 16.16	19.834
* ξ Hydræ . . . . .	4.0	11 27 17.827	2.9421	— 31 12 57.64	19.883
υ Leonis . . . . .	5.0	11 31 0.575	+ 3.0712	— 0 11 0.44	— 19.858
γ Cephei . . . . S. P.	3.3	11 34 35.484	2.4114	+ 103 0 54.48	20.074
* χ Ursæ Majoris . . .	3.7	11 39 55.329	3.1924	+ 48 25 21.02	19.960
β Leonis . . . . .	2.0	11 43 8.546	3.0644	+ 15 13 13.56	20.118
γ Ursæ Majoris . . .	2.3	11 47 43.567	3.1841	+ 54 20 22.62	20.026
Groombr. 4163 . S. P.	7.0	11 49 12.033	+ 2.8602	+ 106 14 6.77	— 20.022
* π Virginis . . . . .	4.3	11 54 55.700	3.0752	+ 7 15 40.15	20.088
ο Virginis . . . . .	4.0	11 59 17.994	3.0578	+ 9 22 38.22	20.016
* ε Corvi . . . . .	3.0	12 4 9.677	3.0789	— 21 58 29.54	20.041
4 Draconis (H.) . . .	4.7	12 6 45.458	2.8927	+ 78 15 39.12	20.023
γ Corvi . . . . .	2.0	12 9 50.491	+ 3.0789	— 16 53 52.09	— 20.019
* 2 Canum Venaticorum	5.3	12 10 18.689	3.0233	+ 41 18 21.85	20.067
β Chamæleontis . . .	5.0	12 11 33.905	3.3903	— 78 40 4.40	19.999
η Virginis . . . . .	3.3	12 13 58.289	3.0684	— 0 1 19.66	20.044
* 6 Ursæ Minoris . . .	6.0	12 14 19.604	0.1015	+ 88 20 35.08	19.941
α <sup>1</sup> Crucis . . . . .	1.0	12 20 8.467	+ 3.2738	— 62 27 21.94	— 20.017
* δ <sup>2</sup> Corvi . . . . .	2.3	12 23 51.877	3.1019	— 15 52 9.50	20.088
* β Canum Venaticorum	4.3	12 28 13.956	2.8606	+ 41 59 16.39	19.619
β Corvi . . . . .	2.3	12 28 17.700	3.1407	— 22 45 18.47	19.966
κ Draconis . . . . .	3.3	12 28 31.666	2.5948	+ 70 25 39.79	19.893
* γ Virginis (mean) . .	2.7	12 35 46.982	+ 3.0381	— 0 48 47.51	— 19.816
21 Cassiopeæ . . . S. P.	6.0	12 38 0.099	3.8487	+ 105 38 46.46	19.757
* 31 Coronæ Borealis . .	5.0	12 46 2.943	2.9307	+ 28 10 19.26	19.666
32 <sup>2</sup> Camelopardalis (H.)	4.7	12 48 17.133	0.3810	+ 84 2 36.34	19.597
* γ Cassiopeæ . . . S. P.	2.0	12 49 42.816	3.5751	+ 119 54 42.44	19.570
α Canum Venaticorum	2.7	12 50 36.066	+ 2.8163	+ 38 56 42.02	— 19.518
* 43 Cephei (H.) . . S. P.	4.3	12 53 4.993	7.1600	+ 94 21 57.04	19.517
* δ Muscæ . . . . .	4.0	12 54 18.435	4.0266	— 70 55 21.25	19.484
* ε Virginis . . . . .	2.7	12 56 24.175	2.9880	+ 11 34 58.14	19.423
θ Virginis . . . . .	4.3	13 3 56.644	3.1007	— 4 55 10.02	19.320
* 20 Canum Venaticorum	4.7	13 12 20.416	+ 2.6975	+ 41 11 0.73	— 19.043
α Urs. Min. (Polaris) S. P.	2.0	13 16 14.291	22.3000	+ 91 18 35.13	18.954
α Virginis (Spica) . .	1.0	13 19 4.946	3.1530	— 10 33 19.93	18.910
* κ Octantis . . . . .	5.0	13 22 22.781	8.5855	— 85 11 24.94	18.802
38 Cassiopeæ . . . S. P.	6.3	13 22 36.683	+ 4.3699	+ 110 19 58.81	— 18.689

MEAN PLACES FOR 1884.0. (January 0<sup>d</sup>.227, Washington.)

Name of Star.	Magni- tude.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
$\zeta$ Virginis . . . . .	3.3	<sup>h</sup> 13 <sup>m</sup> 28 <sup>s</sup> 46.958	+ 3.0523	— 0° 0' 8".78	— 18".528
* B. A. C. 4536 . . . . .	5.0	13 29 36.973	+ 2.6828	+ 37 46 37.07	18.548
* $m$ Virginis . . . . .	6.0	13 35 31.460	+ 3.1426	— 8 7 1.95	18.300
$\gamma$ Ursæ Majoris . . . . .	2.0	13 42 58.182	+ 2.3713	+ 49 53 32.95	18.088
$\gamma$ Bootis . . . . .	3.0	13 49 9.697	+ 2.8568	+ 18 58 46.70	18.182
50 Cassiopeæ . . . S. P.	4.0	13 53 32.803	+ 5.0008	+ 108 8 27.03	— 17.666
* $\theta$ Apodis . . . . .	5.0	13 54 3.832	+ 5.6587	— 76 14 7.89	17.614
$\beta$ Centauri . . . . .	1.0	13 55 38.598	+ 4.1732	— 59 48 45.72	17.608
* $\pi$ Hydræ . . . . .	3.7	13 59 46.137	+ 3.4066	— 26 7 23.38	17.518
$\alpha$ Draconis . . . . .	3.3	14 1 14.989	+ 1.6235	+ 64 55 49.52	17.306
* $d$ Bootis . . . . .	5.0	14 5 6.541	+ 2.7388	+ 25 38 29.73	— 17.213
* $\kappa$ Virginis . . . . .	4.3	14 6 42.526	+ 3.1932	— 9 43 59.82	16.943
* $\delta$ Octantis . . . . .	5.0	14 8 27.629	+ 8.9224	— 83 8 4.22	16.992
* 4 Ursæ Minoris . . . . .	5.0	14 9 18.981	— 0.3311	+ 78 5 33.49	16.909
$\alpha$ Bootis ( <i>Arcturus</i> ) . . . . .	1.0	14 10 22.245	+ 2.7348	+ 19 47 12.43	18.895
* $\lambda$ Bootis . . . . .	4.0	14 11 58.411	+ 2.2830	+ 46 37 16.81	— 16.671
* $\lambda$ Virginis . . . . .	4.7	14 12 50.042	+ 3.2372	— 12 50 11.71	16.744
$\iota$ Cassiopeæ . . . S. P.	4.0	14 19 30.997	+ 4.8551	+ 113 7 12.46	16.456
$\theta$ Bootis . . . . .	4.0	14 21 14.919	+ 2.0442	+ 52 23 14.10	16.772
$\rho$ Bootis . . . . .	3.7	14 26 49.898	+ 2.5878	+ 30 52 51.78	15.974
5 Ursæ Minoris . . . . .	4.7	14 27 46.958	— 0.1967	+ 76 12 41.92	— 16.011
$\alpha^2$ Centauri . . . . .	1.0	14 31 44.779	+ 4.0420	— 60 21 30.31	15.395
* $\alpha$ Apodis . . . . .	4.7	14 33 30.262	+ 7.1591	— 78 33 1.19	15.734
* 33 Bootis . . . . .	5.3	14 34 31.202	+ 2.2344	+ 44 54 19.72	15.723
$\epsilon$ Bootis . . . . .	2.3	14 39 55.315	+ 2.6213	+ 27 33 49.53	15.356
$\alpha^2$ Libræ . . . . .	2.3	14 44 27.708	+ 3.3087	— 15 33 32.48	— 15.187
* 47 Cephei (H.) . . S. P.	6.0	14 50 42.566	+ 7.6971	+ 101 2 30.10	14.738
$\beta$ Ursæ Minoris . . . . .	2.0	14 51 3.227	— 0.2366	+ 74 37 46.36	14.718
* $\gamma$ Scorpii . . . . .	3.3	14 57 16.982	+ 3.5009	— 24 49 30.50	14.377
$\beta$ Bootis . . . . .	3.0	14 57 34.617	+ 2.2601	+ 40 50 54.80	14.375
48 Cephei (H.) . . S. P.	6.3	15 5 38.309	+ 7.3875	+ 102 41 36.53	— 13.775
$\beta$ Libræ . . . . .	2.0	15 10 45.925	+ 3.2211	— 8 57 14.90	13.530
* $\delta$ Bootis . . . . .	3.0	15 10 49.601	+ 2.4208	+ 33 44 53.76	13.599
* $\rho$ Octantis . . . . .	6.0	15 16 43.209	+ 12.9025	— 84 4 28.97	13.063
$\mu^1$ Bootis . . . . .	4.0	15 20 6.520	+ 2.2662	+ 37 47 4.47	12.795
$\gamma^2$ Ursæ Minoris . . . . .	3.0	15 20 55.223	— 0.1377	+ 72 14 48.33	— 12.811
* $\beta$ Coronæ Borealis . . . . .	4.0	15 23 2.807	+ 2.4750	+ 29 30 21.74	12.611
$\alpha$ Coronæ Borealis . . . . .	2.0	15 29 46.619	+ 2.5391	+ 27 6 20.53	12.323
* $\gamma$ Camelop. (H.) . . S. P.	4.3	15 38 7.714	+ 6.2297	+ 109 1 37.37	11.586
$\alpha$ Serpentis . . . . .	2.3	15 38 33.278	+ 2.9513	+ 6 47 28.59	11.572
$\epsilon$ Serpentis . . . . .	3.3	15 45 2.047	+ 2.9868	+ 4 49 39.84	— 11.070
$\zeta$ Ursæ Minoris . . . . .	4.3	15 48 13.479	— 2.2624	+ 78 9 2.72	10.907
$\epsilon$ Coronæ Borealis . . . . .	4.0	15 52 47.176	+ 2.4831	+ 27 12 51.96	10.630
$\delta$ Scorpii . . . . .	2.3	15 53 28.533	+ 3.5378	— 22 17 25.80	10.554
$\beta^1$ Scorpii . . . . .	2.0	15 58 41.589	+ 3.4800	— 19 29 13.01	10.164
* $\delta^1$ Apodis . . . . .	5.3	16 3 3.053	+ 8.7375	— 78 24 0.49	— 9.776
* $\varphi$ Herculis . . . . .	4.0	16 5 6.746	+ 1.8811	+ 45 14 22.28	9.595
Groombridge 2320 . . . . .	6.3	16 6 0.350	+ 0.1376	+ 68 6 57.13	9.499
$\delta$ Ophiuchi . . . . .	3.0	16 8 16.026	+ 3.1392	— 3 23 40.98	9.537
* $\sigma$ Coronæ Borealis ( <i>mean</i> ) . . . . .	5.7	16 10 20.025	+ 2.2445	+ 34 9 11.73	— 9.273



MEAN PLACES FOR 1884.0. (January 0<sup>d</sup>.227, Washington.)

Name of Star.	Magni- tude.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
		<sup>h</sup> <sup>m</sup> <sup>s</sup>	<sup>s</sup>	<sup>°</sup> <sup>'</sup> <sup>"</sup>	
* $\gamma$ Apodis . . . . .	4.3	16 15 41.446	+ 8.9930	— 78 37 59.55	— 8.863
$\tau$ Herculis . . . . .	3.3	16 16 15.283	+ 1.8008	+ 46 35 23.96	8.749
* $\eta$ Ursæ Minoris . . . .	5.0	16 20 54.388	— 1.8226	+ 76 1 19.90	8.149
$\alpha$ Scorpii ( <i>Antares</i> ) . .	1.3	16 22 17.748	+ 3.6693	— 26 10 24.34	8.330
$\eta$ Draconis . . . . .	2.7	16 22 25.420	+ 0.8053	+ 61 46 37.02	8.228
$\beta$ Herculis . . . . .	2.3	16 25 14.011	+ 2.5773	+ 21 44 35.39	— 8.076
$\Delta$ Draconis . . . . .	5.0	16 28 12.991	— 0.1372	+ 69 1 8.12	7.797
$\zeta$ Ophiuchi . . . . .	2.7	16 30 46.310	+ 3.2986	— 10 19 52.05	7.590
$\alpha$ Trianguli Australis . .	2.0	16 36 23.572	+ 6.2986	— 68 48 44.59	7.211
$\eta$ Herculis . . . . .	3.3	16 38 55.142	+ 2.0536	+ 39 8 36.44	7.037
$\alpha$ Camelopardalis . S. P.	4.7	16 42 31.276	+ 5.9213	+ 113 51 23.10	— 6.650
$\kappa$ Ophiuchi . . . . .	3.3	16 52 10.681	+ 2.8372	+ 9 33 22.61	5.854
$d$ Herculis . . . . .	5.0	16 57 19.417	+ 2.2111	+ 33 44 12.90	5.414
$\epsilon$ Ursæ Minoris . . . .	4.3	16 57 53.645	— 6.3484	+ 82 13 34.51	5.370
* $\eta$ Ophiuchi . . . . .	2.7	17 3 43.525	+ 3.4366	— 15 34 48.63	4.765
$\alpha^1$ Herculis ( <i>var.</i> ) . . .	3.5	17 9 21.505	+ 2.7333	+ 14 31 24.29	— 4.369
* $\pi$ Herculis . . . . .	3.0	17 11 0.439	+ 2.0889	+ 36 56 25.70	4.246
* $\theta$ Ophiuchi . . . . .	3.3	17 14 53.146	+ 3.6787	— 24 52 57.16	3.973
$b$ Ophiuchi ( <i>var.</i> ) . . .	5.0	17 19 17.188	+ 3.6587	— 24 4 2.33	3.675
* $\delta$ Aræ . . . . .	4.0	17 20 37.890	+ 5.4001	— 60 35 7.14	3.569
Groombr. 966 . . S. P.	6.3	17 24 13.562	+ 7.9967	+ 105 2 8.90	— 3.137
* Groombr. 944 . . S. P.	6.3	17 24 56.518	+ 18.6191	+ 94 51 55.39	3.067
$\beta$ Draconis . . . . .	2.7	17 27 48.751	+ 1.3531	+ 52 23 15.22	2.808
$\alpha$ Ophiuchi . . . . .	2.0	17 29 33.002	+ 2.7827	+ 12 38 43.23	2.894
* $\epsilon$ Herculis . . . . .	3.3	17 36 11.521	+ 1.6964	+ 46 4 6.59	2.091
$\omega$ Draconis . . . . .	5.0	17 37 37.927	— 0.3544	+ 68 48 41.09	— 1.630
$\mu$ Herculis . . . . .	3.3	17 41 55.161	+ 2.3462	+ 27 47 20.98	2.339
$\psi^1$ Draconis . . . . .	4.3	17 44 0.155	— 1.0801	+ 72 12 19.26	1.672
* $\theta$ Herculis . . . . .	4.0	17 52 16.479	+ 2.0550	+ 37 15 59.34	0.637
$\gamma$ Draconis . . . . .	2.3	17 53 54.765	+ 1.3913	+ 51 30 10.30	0.562
$\gamma^2$ Sagittarii . . . . .	3.3	17 58 21.378	+ 3.8514	— 30 25 27.02	— 0.363
* $\sigma$ Herculis . . . . .	4.0	18 3 1.070	+ 2.3393	+ 28 44 49.92	+ 0.267
22 Camelop. (H.) . . S. P.	4.7	18 6 3.497	+ 6.6179	+ 110 38 30.36	0.648
$\mu$ Sagittarii . . . . .	4.0	18 6 49.578	+ 3.5866	— 21 5 16.55	0.585
$\delta$ Ursæ Minoris . . . .	4.3	18 9 44.395	— 19.4505	+ 86 36 36.85	0.902
$\eta$ Serpentis . . . . .	3.0	18 15 18.462	+ 3.1022	— 2 55 39.72	+ 0.664
* $\lambda$ Sagittarii . . . . .	3.0	18 20 48.703	+ 3.7027	— 25 29 4.53	1.609
* $\chi$ Draconis . . . . .	4.0	18 23 8.812	— 1.0791	+ 72 40 55.62	1.645
1 Aquilæ . . . . .	4.3	18 28 53.685	+ 3.2645	— 8 19 27.08	2.192
* $\zeta$ Pavonis . . . . .	4.0	18 29 28.499	+ 7.0314	— 71 31 28.16	2.431
$\sigma$ Octantis . . . . .	6.0	18 31 42.572	+ 107.4920	— 89 16 20.41	+ 2.747
$\alpha$ Lyræ ( <i>Vega</i> ) . . . .	1.0	18 33 0.678	+ 2.0313	+ 38 40 34.40	3.152
51 Cephei (H.) . . S. P.	5.3	18 45 45.652	+ 30.0340	+ 92 46 30.54	4.070
$\beta$ Lyræ ( <i>var.</i> ) . . . .	4.0	18 45 47.852	+ 2.2142	+ 33 13 42.75	3.963
$\sigma$ Sagittarii . . . . .	2.3	18 48 4.339	+ 3.7220	— 26 26 22.36	4.098
50 Draconis . . . . .	6.0	18 50 6.497	— 1.9050	+ 75 17 47.60	+ 4.424
* $\gamma$ Lyræ . . . . .	3.3	18 54 36.280	+ 2.2443	+ 32 31 51.94	4.744
$\zeta$ Aquilæ . . . . .	3.0	19 0 4.724	+ 2.7569	+ 13 41 30.69	5.093
* $\epsilon$ Lyræ . . . . .	5.0	19 3 9.778	+ 2.1411	+ 35 55 8.11	5.466
* 25 Camelopardalis . S. P.	4.7	19 6 36.827	+ 12.9850	+ 97 22 8.57	+ 5.778

MEAN PLACES FOR 1884.0. (January 0<sup>d</sup>.227, Washington.)

Name of Star.	Magni- tude.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
		<sup>h</sup> <sup>m</sup> <sup>s</sup>	<sup>s</sup>	<sup>°</sup> <sup>'</sup> <sup>''</sup>	<sup>''</sup>
<i>d</i> Sagittarii . . . . .	5.0	19 10 50.851	+ 3.5126	— 19° 9' 29.54	+ 6.083
* <i>θ</i> Lyræ . . . . .	4.3	19 12 20.476	+ 2.0789	+ 37 55.39.31	6.226
<i>δ</i> Draconis . . . . .	3.0	19 12 31.559	+ 0.0308	+ 67 27 26.98	6.326
<i>τ</i> Draconis . . . . .	4.7	19 17 46.714	— 1.1138	+ 73 8 23.18	6.784
Piazzi vii. 67 . . . S. P.	6.0	19 18 48.185	+ 6.3033	+ 111 17 57.73	6.797
<i>δ</i> Aquilæ . . . . .	3.3	19 19 38.976	+ 3.0253	+ 2 53 3.78	+ 6.906
* <i>β</i> Cygni . . . . .	3.0	19 26 2.607	+ 2.4193	+ 27 43 0.06	7.345
<i>κ</i> Aquilæ . . . . .	5.0	19 30 39.030	+ 3.2291	— 7 17 3.70	7.728
* <i>β</i> Sagittæ . . . . .	4.3	19 35 50.343	+ 2.6955	+ 17 12 28.34	8.115
<i>λ</i> Ursæ Minoris . . . .	6.3	19 39 59.774	— 63.3185	+ 88 57 11.18	8.485
<i>γ</i> Aquilæ . . . . .	3.0	19 40 44.696	+ 2.8522	+ 10 19 52.88	+ 8.526
* <i>δ</i> Cygni . . . . .	2.7	19 41 20.992	+ 1.8761	+ 44 50 52.97	8.618
<i>α</i> Aquilæ ( <i>Altair</i> ) . . .	1.3	19 45 7.421	+ 2.9277	+ 8 33 45.84	9.250
* Groombr. 1374 . . . S. P.	5.7	19 46 17.254	+ 7.2958	+ 105 46 28.04	9.004
* <i>ε</i> Pavonis . . . . .	4.0	19 47 9.913	+ 7.0574	— 73 12 50.73	8.937
<i>ε</i> Draconis . . . . .	3.7	19 48 33.524	— 0.1768	+ 69 58 20.97	+ 9.175
<i>β</i> Aquilæ . . . . .	4.0	19 49 36.919	+ 2.9471	+ 6 7 3.96	8.738
* <i>γ</i> Sagittæ . . . . .	3.7	19 53 35.916	+ 2.6678	+ 19 10 40.17	9.576
* <i>c</i> Sagittarii . . . . .	5.0	19 55 31.392	+ 3.6957	— 28 1 52.52	9.705
<i>τ</i> Aquilæ . . . . .	6.0	19 58 28.431	+ 2.9332	+ 6 57 4.69	9.918
3 Ursæ Majoris (H.) S.P.	5.7	20 1 15.521	+ 6.0555	+ 111 11 10.57	+ 10.120
* <i>θ</i> Aquilæ . . . . .	3.0	20 5 19.137	+ 3.0974	— 1 9 53.41	10.436
* <i>o</i> <sup>1</sup> Cygni . . . . .	4.3	20 9 58.749	+ 1.8893	+ 46 23 23.63	10.776
<i>α</i> <sup>2</sup> Capricorni . . . . .	3.0	20 11 37.087	+ 3.3326	— 12 54 12.55	10.894
<i>κ</i> Cephei ( <i>pr.</i> ) . . . . .	4.3	20 12 46.473	— 1.9141	+ 77 21 41.59	11.007
<i>α</i> Pavonis . . . . .	2.0	20 16 28.267	+ 4.7873	— 57 6 18.95	+ 11.157
<i>γ</i> Cygni . . . . .	2.3	20 18 4.015	+ 2.1536	+ 39 53 8.92	11.356
<i>π</i> Capricorni . . . . .	5.0	20 20 40.872	+ 3.4402	— 18 35 28.02	11.534
<i>ε</i> Delphini . . . . .	4.0	20 27 40.288	+ 2.8672	+ 10 54 35.24	12.023
Groombridge 3241 . . .	6.3	20 30 29.970	— 0.2162	+ 72 8 19.01	12.223
* <i>α</i> Delphini . . . . .	3.7	20 34 14.999	+ 2.7878	+ 15 30 12.27	+ 12.504
* <i>β</i> Pavonis . . . . .	3.0	20 34 29.591	+ 5.4804	— 66 37 5.77	12.495
<i>α</i> Cygni . . . . .	1.7	20 37 28.673	+ 2.0443	+ 44 51 58.28	12.712
* <i>φ</i> Capricorni . . . . .	4.3	20 39 13.484	+ 3.5594	— 25 41 12.82	12.668
* <i>ε</i> Cygni . . . . .	2.7	20 41 31.071	+ 2.4274	+ 33 32 10.06	13.325
<i>μ</i> Aquarii . . . . .	4.7	20 46 23.815	+ 3.2402	— 9 25 4.35	+ 13.270
12 Year Cat. 1879 . . .	6.0	20 52 48.899	— 2.5320	+ 80 6 59.71	13.698
<i>ν</i> Cygni . . . . .	4.0	20 52 50.930	+ 2.2339	+ 40 43 15.52	13.712
<i>σ</i> <sup>2</sup> Ursæ Majoris . . . S. P.	5.0	21 0 10.364	+ 5.3621	+ 112 23 44.66	14.246
61 <sup>1</sup> Cygni . . . . .	5.0	21 1 41.864	+ 2.6830	+ 38 10 46.00	17.515
<i>ζ</i> Cygni . . . . .	3.0	21 7 59.948	+ 2.5494	+ 29 45 5.51	+ 14.599
* <i>τ</i> Cygni . . . . .	4.0	21 10 9.669	+ 2.3932	+ 37 33 2.20	15.250
<i>α</i> Cephei . . . . .	2.7	21 15 48.636	+ 1.4369	+ 62 5 39.44	15.165
1 Pegasi . . . . .	4.3	21 16 43.300	+ 2.7721	+ 19 18 31.30	15.227
* <i>ζ</i> Capricorni . . . . .	4.0	21 20 2.537	+ 3.4335	— 22 54 46.94	15.384
1 Draconis (H.) . . . S. P.	4.3	21 20 27.657	+ 9.0418	+ 98 9 45.48	+ 15.406
<i>d</i> Ursæ Majoris . . . S. P.	4.7	21 24 12.294	+ 5.4099	+ 109 39 39.38	15.535
<i>β</i> Aquarii . . . . .	3.0	21 25 27.128	+ 3.1621	— 6 4 51.36	15.647
<i>β</i> Cephei ( <i>pr.</i> ) . . . . .	3.0	21 27 9.535	+ 0.7960	+ 70 3 5.55	15.753
<i>ξ</i> Aquarii . . . . .	5.0	21 31 34.603	+ 3.1984	— 8 22 25.88	+ 15.957



MEAN PLACES FOR 1884.0. (January 0<sup>d</sup>.227, Washington.)

Name of Star.	Magni- tude.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
		<sup>h</sup> <sup>m</sup> <sup>s</sup>	<sup>s</sup>	<sup>°</sup> <sup>'</sup> <sup>"</sup>	<sup>"</sup>
* 74 Cygni . . . . .	5.0	21 32 18.003	+ 2.4011	+ 39 53 33.36	+ 16.041
* λ <sup>1</sup> Octantis . . . . .	5.3	21 32 59.380	9.8479	— 83 15 2.23	15.984
ε Pegasi . . . . .	2.3	21 38 29.345	2.9467	+ 9 20 37.16	16.344
11 Cephei . . . . .	5.0	21 40 13.220	0.9030	+ 70 46 38.83	16.535
* π <sup>2</sup> Cygni . . . . .	4.3	21 42 30.502	2.2127	+ 48 46 23.51	16.534
μ Capricorni . . . . .	5.0	21 46 58.270	+ 3.2767	— 14 5 50.23	+ 16.767
* 16 Pegasi . . . . .	5.3	21 47 47.055	2.7275	+ 25 22 47.04	16.808
79 Draconis . . . . .	6.3	21 51 25.255	0.7317	+ 73 9 12.98	17.010
α Aquarii . . . . .	3.0	21 59 49.550	3.0829	— 0 52 58.66	17.345
α Gruis . . . . .	2.0	22 0 55.048	3.8086	— 47 31 19.16	17.234
* π Pegasi . . . . .	4.0	22 4 50.177	+ 2.6596	+ 32 36 33.89	+ 17.571
* υ Octantis . . . . .	6.0	22 9 5.367	13.3676	— 86 33 19.33	17.836
32 Ursæ Majoris . . S. P.	6.0	22 9 35.905	4.4270	+ 114 18 49.45	17.796
θ Aquarii . . . . .	4.3	22 10 42.735	3.1695	— 8 21 37.76	17.792
* γ Aquarii . . . . .	3.3	22 15 39.855	3.1010	— 1 58 17.56	18.030
π Aquarii . . . . .	4.7	22 19 21.189	+ 3.0648	+ 0 47 20.87	+ 18.146
* σ Aquarii . . . . .	5.0	22 24 30.397	3.1762	— 11 16 16.19	18.309
9 Draconis (H.) . . S. P.	4.7	22 25 12.648	5.2779	+ 103 41 24.56	18.378
* α Lacertæ . . . . .	4.0	22 26 30.803	2.4613	+ 49 41 10.71	18.408
η Aquarii . . . . .	4.0	22 29 23.729	3.0838	— 0 42 54.23	18.449
226 Cephei (B.) . . .	5.3	22 30 14.067	+ 1.0793	+ 75 37 43.20	+ 18.526
* 10 Lacertæ . . . . .	5.0	22 34 3.418	2.6858	+ 38 26 48.25	18.662
* β Octantis . . . . .	4.7	22 34 7.482	6.5200	— 81 59 19.37	18.664
ζ Pegasi . . . . .	3.3	22 35 40.622	2.9908	+ 10 13 34.00	18.699
* λ Pegasi . . . . .	4.0	22 40 56.648	2.8847	+ 22 57 19.59	18.867
ι Cephei . . . . .	3.3	22 45 33.074	+ 2.1206	+ 65 35 25.40	+ 18.872
λ Aquarii . . . . .	4.0	22 46 33.773	3.1331	— 8 11 47.54	19.068
* Groombr. 1706 . . S. P.	6.0	22 50 38.479	4.9870	+ 101 36 31.47	19.170
α Pis. Aus. ( <i>Fomalhaut</i> )	1.3	22 51 14.329	3.3260	— 30 14 12.26	18.987
α Ursæ Majoris . . S. P.	2.0	22 56 33.643	3.7518	+ 117 37 22.84	19.357
* ο Andromedæ . . .	3.7	22 56 35.100	+ 2.7489	+ 41 42 9.29	+ 19.232
α Pegasi ( <i>Markab</i> ) . .	2.0	22 58 58.986	2.9847	+ 14 34 52.63	19.296
* φ Aquarii . . . . .	4.3	23 8 18.905	3.1090	— 6 40 26.78	19.354
ο Cephei . . . . .	5.3	23 13 52.009	2.4417	+ 67 28 37.22	19.666
* τ Pegasi . . . . .	4.7	23 14 53.764	2.9629	+ 23 6 19.44	19.652
θ Piscium . . . . .	4.7	23 22 5.035	+ 3.0410	+ 5 44 30.51	+ 19.724
λ Draconis . . . . S. P.	3.3	23 24 30.253	3.6274	+ 110 1 43.84	19.834
* λ Andromedæ . . .	4.0	23 31 53.337	2.9206	+ 45 49 46.17	19.470
ι Piscium . . . . .	4.3	23 33 59.050	3.0840	+ 4 59 51.50	19.481
γ Cephei . . . . .	3.3	23 34 35.484	2.4114	+ 76 59 5.52	20.074
* ι <sup>1</sup> Aquarii . . . . .	5.0	23 38 11.097	+ 3.1175	— 18 55 14.20	+ 19.957
* δ Sculptoris . . . .	4.3	23 42 52.981	3.1334	— 28 46 17.05	19.855
* γ <sup>1</sup> Octantis . . . . .	5.3	23 45 15.178	3.7078	— 82 39 48.54	19.991
Groombridge 4163 . .	7.0	23 49 12.033	2.8602	+ 73 45 53.23	20.022
ω Piscium . . . . .	4.0	23 53 21.302	3.0781	+ 6 13 15.84	19.930
* 33 Piscium . . . . .	5.0	23 59 23.886	+ 3.0709	— 6 21 23.19	+ 20.144

APPARENT RIGHT ASCENSIONS AND APPROXIMATE NORTH POLAR DISTANCES,  
FOR TRANSIT AT WASHINGTON.

Mean Solar Date.	$\beta$ Cassiop.	$\epsilon$ Androm.	$\sigma$ Androm.	$\iota$ Ceti.	6 Urs.Min., S. P.	44 Piscium.	$\pi$ Androm.	$\phi$ Cassiop.
	31° 30' h m 0 2	44° 35' h m 0 4	53° 52' h m 0 12	99° 29' h m 0 13	358° 21' h m 0 13	88° 43' h m 0 19	56° 56' h m 0 30	42° 22' h m 0 38
(Dec. 30.3)	<sup>s</sup> 50.87 - .34	<sup>s</sup> 9.26 - .21	<sup>s</sup> 7.78 - .13	<sup>s</sup> 22.68 - .10	<sup>s</sup> 81.47 + 7.40	<sup>s</sup> 19.13 - .14	<sup>s</sup> 32.77 - .20	<sup>s</sup> 7.16 - .22
Jan. 9.2	50.55 .30	9.06 .19	7.65 .15	22.58 .10	88.85 7.28	19.01 .11	32.58 .17	6.94 .22
19.2	50.27 .27	8.88 .18	7.48 .16	22.47 .11	95.99 6.90	18.93 .09	32.45 .14	6.71 .21
29.1	50.01 - .25	8.70 - .17	7.33 - .15	22.35 - .12	102.61 + 6.32	18.84 - .08	32.31 - .12	6.51 - .19
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Aug. 26.6	55.57 + .25	13.21 + .18	11.40 + .18	25.90 + .17	37.73 - 3.36	22.31 + .16	36.15 + .20	10.87 + .25
Sept. 5.6	55.79 .19	13.38 .15	11.57 .15	26.05 .13	34.84 2.41	22.46 .14	36.34 .18	11.10 .21
15.5	55.94 .11	13.51 .11	11.70 .11	26.15 .09	32.94 1.40	22.59 .09	36.49 .13	11.28 .16
25.5	56.01 + .05	13.58 .06	11.78 .06	26.23 .07	32.08 - .32	22.65 .06	36.58 .08	11.42 .11
Oct. 5.5	56.04 .00	13.62 + .01	11.82 + .03	26.28 + .02	32.34 + .81	22.70 + .03	36.65 .05	11.49 .06
15.4	56.01 - .07	13.60 - .03	11.83 - .01	26.27 - .01	33.69 + 1.89	22.72 .00	36.68 + .01	11.53 + .02
25.4	55.91 .12	13.55 .08	11.80 .05	26.25 .03	36.11 2.98	22.70 - .03	36.67 - .02	11.52 - .03
Nov. 4.4	55.77 .17	13.45 .11	11.74 .08	26.21 .06	39.66 4.80	22.66 .05	36.65 .04	11.48 .07
14.4	55.58 .21	13.32 .14	11.64 .10	26.13 .09	44.20 5.00	22.60 .07	36.58 .08	11.38 .11
24.3	55.35 .24	13.17 .16	11.53 .12	26.03 .10	49.63 5.85	22.52 .09	36.48 .11	11.26 .14
Dec. 4.3	55.10 - .27	13.01 - .18	11.40 - .14	25.93 - .11	55.88 + 6.62	22.41 - .10	36.37 - .12	11.10 - .16
14.3	54.81 .30	12.82 .19	11.25 .15	25.81 .12	62.71 7.08	22.31 .10	36.24 .13	10.94 .18
24.3	54.49 .31	12.62 .20	11.09 .16	25.69 .12	69.97 7.40	22.21 .11	36.10 .15	10.74 .20
34.2	54.19 - .29	12.41 - .21	10.93 - .16	25.57 - .12	77.38 + 7.46	22.10 - .11	35.94 - .16	10.53 - .21
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Mean Solar Date.	$\delta$ Piscium.	$\gamma$ Cassiop.	$\mu$ Androm.	43 Cephei.	$f$ Piscium.	$\kappa$ Tucanæ.	$\kappa$ Octantis, S. P.	$\nu$ Androm.
	83° 3' h m 0 42	29° 55' h m 0 49	52° 8' h m 0 50	4° 23' h m 0 52	87° 0' h m 1 11	159° 30' h m 1 11	184° 49' h m 1 22	49° 11' h m 1 29
(Dec. 30.3)	<sup>s</sup> 31.66 - .11	<sup>s</sup> 33.62 - .32	<sup>s</sup> 10.39 - .19	<sup>s</sup> 48.33 - 2.72	<sup>s</sup> 40.96 - .12	<sup>s</sup> 45.04 - .58	<sup>s</sup> 57.49 + 2.94	<sup>s</sup> 50.71 - .16
Jan. 9.2	31.55 .11	33.30 .33	10.21 .18	45.61 2.71	40.84 .12	44.47 .56	60.44 2.95	50.54 .18
19.2	31.43 .12	32.97 .32	10.06 .17	42.91 2.67	40.72 .12	43.92 .55	63.38 2.89	50.36 .20
29.2	31.32 - .11	32.66 - .30	9.88 - .17	40.27 - 2.60	40.60 - .12	43.38 - .53	66.19 + 2.73	50.14 - .23
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Sept. 5.6	34.85 + .15	38.18 + .26	13.94 + .20	67.01 + 1.63	43.85 + .20	48.39 + .36	55.63 - 1.50	53.97 + .26
15.5	34.99 .13	38.42 .22	14.13 .17	68.42 1.20	44.03 .16	48.71 .28	54.35 1.06	54.21 .22
25.5	35.08 .08	38.62 .15	14.26 .11	69.40 .77	44.16 .11	48.95 .20	53.52 .61	54.40 .17
Oct. 5.5	35.15 .06	38.72 .09	14.35 .07	69.97 + .36	44.25 .08	49.10 .10	53.14 - .14	54.55 .13
15.5	35.29 + .03	38.79 + .04	14.40 + .04	70.11 - .08	44.31 .05	49.16 + .01	53.25 + .36	54.65 .09
25.4	35.20 - .01	38.79 - .03	14.42 .00	69.81 - .51	44.35 + .02	49.13 - .08	53.87 + .86	54.72 + .06
Nov. 4.4	35.18 .03	38.72 .09	14.40 - .04	69.08 .95	44.35 - .01	48.99 .18	54.97 1.35	54.77 + .02
14.4	35.15 .05	38.61 .15	14.35 .07	67.92 1.36	44.33 .03	48.78 .27	56.57 1.80	54.76 - .03
24.3	35.08 .07	38.43 .20	14.26 .10	66.37 1.74	44.29 .06	48.45 .36	58.56 2.18	54.72 .06
Dec. 4.3	35.00 .09	38.22 .23	14.15 .12	64.44 2.09	44.22 .07	48.06 .43	60.93 2.51	54.64 .10
14.3	34.90 - .10	37.97 - .28	14.02 - .13	62.19 - 2.37	44.15 - .09	47.59 - .51	63.57 + 2.74	54.53 - .13
24.3	34.79 .11	37.66 .31	13.88 .15	59.70 2.58	44.05 .10	47.04 .56	66.40 2.89	54.39 .15
34.2	34.68 - .11	37.35 - .30	13.72 - .16	57.04 - 2.73	43.94 - .11	46.47 - .58	69.33 + 2.95	54.23 - .17



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Mean Solar Date.	$\pi$ Piscium.	$\nu$ Piscium.	$\zeta$ Ceti.	$\gamma$ Androm.	$\beta$ Trianguli.	4 Urs. Min., S. P.	$\gamma$ Trianguli.	67 Ceti.
	$78^{\circ} 28'$ h m 1 30	$85^{\circ} 7'$ h m 1 35	$100^{\circ} 55'$ h m 1 45	$48^{\circ} 14'$ h m 1 56	$55^{\circ} 34'$ h m 2 2	$348^{\circ} 6'$ h m 2 9	$56^{\circ} 42'$ h m 2 10	$91^{\circ} 58'$ h m 2 11
(Dec. 30.3)	$48.94 - .11$	$15.80 - .12$	$36.63 - .11$	$37.89 - .16$	$29.84 - .13$	$16.99 + .99$	$16.50 - .12$	$4.45 - .09$
Jan. 9.3	$48.82 - .12$	$15.68 - .12$	$36.51 - .12$	$37.72 - .17$	$29.70 - .14$	$18.01 - .06$	$16.37 - .15$	$4.35 - .11$
19.2	$48.70 - .13$	$15.56 - .12$	$36.39 - .13$	$37.55 - .18$	$29.55 - .16$	$19.10 - .11$	$16.21 - .16$	$4.23 - .13$
29.2	$48.57 - .12$	$15.43 - .12$	$36.24 - .14$	$37.35 - .20$	$29.38 - .17$	$20.22 - .11$	$16.05 - .17$	$4.09 - .14$
Feb. 8.2	$48.45 - .12$	$15.31 - .11$	$36.10 - .14$	$37.15 - .19$	$29.20 - .17$	$21.31 - .07$	$15.88 - .17$	$3.95 - .14$
18.2	$48.32 - .12$	$15.20 - .11$	$35.97 - .13$	$36.97 - .18$	$29.04 - .16$	$22.36 + 1.02$	$15.70 - .18$	$3.80 - .15$
Sept. 15.6	$52.08 + .14$	$18.85 + .12$	$39.46 + .15$	$41.42 + .20$	$33.15 + .19$	$13.75 - .58$	$19.71 + .20$	$7.11 + .17$
Oct. 5.6	$52.21 - .11$	$18.96 - .10$	$39.60 - .11$	$41.61 - .18$	$33.33 - .17$	$13.24 - .44$	$19.90 - .18$	$7.27 - .14$
15.5	$52.28 - .07$	$19.05 - .09$	$39.68 - .08$	$41.76 - .13$	$33.48 - .13$	$12.88 - .28$	$20.06 - .15$	$7.38 - .10$
25.5	$52.34 + .04$	$19.11 + .06$	$39.76 + .06$	$41.86 + .09$	$33.58 + .09$	$12.69 - .11$	$20.18 + .10$	$7.47 + .08$
Nov. 4.5	$52.37 + .02$	$19.15 + .02$	$39.80 + .02$	$41.93 - .05$	$33.66 - .06$	$12.67 + .07$	$20.25 - .07$	$7.53 - .04$
14.4	$52.38 - .01$	$19.15 - .01$	$39.80 - .01$	$41.96 + .02$	$33.70 + .02$	$12.83 - .26$	$20.31 + .03$	$7.55 + .02$
24.4	$52.34 - .04$	$19.13 - .04$	$39.78 - .03$	$41.97 - .02$	$33.71 - .01$	$13.19 - .44$	$20.32 - .01$	$7.56 - .01$
Dec. 4.4	$52.30 - .06$	$19.08 - .06$	$39.73 - .05$	$41.92 - .07$	$33.62 - .05$	$13.72 - .61$	$20.30 - .04$	$7.54 - .04$
14.4	$52.23 - .09$	$19.02 - .08$	$39.67 - .08$	$41.83 - .11$	$33.62 - .08$	$14.42 + .78$	$20.25 - .08$	$7.49 - .07$
24.3	$52.13 - .10$	$18.92 - .10$	$39.57 - .11$	$41.71 - .14$	$33.52 - .12$	$15.27 - .92$	$20.15 - .11$	$7.40 - .09$
34.3	$52.03 - .11$	$18.81 - .11$	$39.45 - .12$	$41.56 - .16$	$33.39 - .14$	$16.25 + 1.04$	$20.03 - .12$	$7.29 - .10$
Mean Solar Date.	$\delta$ Hydri.	$\delta$ Ceti.	$\mu$ Hydri.	$\theta$ Persei.	$\sigma$ Arietis.	47 Cephei.	$\epsilon$ Arietis.	$\beta$ Persei, (Algol.)
	$159^{\circ} 12'$ h m 2 19	$90^{\circ} 11'$ h m 2 33	$169^{\circ} 37'$ h m 2 34	$41^{\circ} 16'$ h m 2 36	$75^{\circ} 24'$ h m 2 44	$11^{\circ} 3'$ h m 2 50	$69^{\circ} 8'$ h m 2 52	$49^{\circ} 30'$ h m 3 0
(Dec. 30.3)	$40.00 - .55$	$24.77 - .10$	$16.36 - 1.14$	$7.18 - .15$	$57.35 - .08$	$26.43 - .68$	$26.59 - .09$	$28.20 - .09$
Jan. 9.3	$39.44 - .57$	$24.66 - .11$	$15.18 - 1.22$	$7.01 - .19$	$57.26 - .11$	$25.67 - .82$	$26.49 - .11$	$28.09 - .13$
19.3	$38.86 - .58$	$24.55 - .13$	$13.93 - 1.96$	$6.81 - .22$	$57.13 - .13$	$24.78 - .93$	$26.37 - .13$	$27.94 - .17$
29.3	$38.27 - .59$	$24.41 - .14$	$12.66 - 1.27$	$6.58 - .23$	$57.00 - .14$	$23.81 - .99$	$26.23 - .14$	$27.75 - .19$
Feb. 8.2	$37.69 - .58$	$24.27 - .14$	$11.40 - 1.25$	$6.35 - .23$	$56.85 - .15$	$22.80 - 1.03$	$26.08 - .15$	$27.55 - .20$
18.2	$37.12 - .57$	$24.12 - .15$	$10.16 - 1.21$	$6.10 - .24$	$56.70 - .15$	$21.76 - 1.05$	$25.93 - .15$	$27.35 - .20$
Sept. 25.6	$41.93 + .33$	$27.30 + .19$	$17.09 + .66$	$10.63 + .28$	$59.98 + .21$	$33.37 + .94$	$29.25 + .22$	$31.19 + .27$
Oct. 5.6	$42.22 - .25$	$27.48 - .16$	$17.67 - .49$	$10.90 - .25$	$60.18 - .18$	$34.24 - .80$	$29.46 - .20$	$31.45 - .25$
15.5	$42.42 - .15$	$27.62 - .13$	$18.06 - .28$	$11.13 - .21$	$60.34 - .15$	$34.97 - .66$	$29.65 - .17$	$31.68 - .22$
25.5	$42.51 + .04$	$27.74 + .10$	$18.22 + .05$	$11.32 + .17$	$60.48 + .12$	$35.55 + .51$	$29.80 + .14$	$31.88 + .18$
Nov. 4.5	$42.50 - .07$	$27.82 - .07$	$18.16 - .17$	$11.46 - .11$	$60.58 - .09$	$35.98 - .32$	$29.92 - .10$	$32.04 - .13$
14.5	$42.37 - .19$	$27.88 - .05$	$17.88 - .39$	$11.54 - .07$	$60.66 - .07$	$36.19 + .13$	$30.00 - .07$	$32.14 - .10$
24.4	$42.13 - .28$	$27.91 + .02$	$17.38 - .60$	$11.59 + .02$	$60.71 + .03$	$36.24 - .05$	$30.06 + .04$	$32.23 + .06$
Dec. 4.4	$41.81 - .36$	$27.91 - .02$	$16.69 - .78$	$11.58 - .03$	$60.72 - .01$	$36.09 - .25$	$30.08 - .00$	$32.25 - .00$
14.4	$41.41 - .44$	$27.88 - .05$	$15.82 - .95$	$11.53 - .09$	$60.70 - .03$	$35.74 - .44$	$30.07 - .03$	$32.24 - .03$
24.4	$40.94 - .50$	$27.82 - .08$	$14.79 - 1.08$	$11.41 - .13$	$60.66 - .06$	$35.20 - .62$	$30.03 - .06$	$32.19 - .08$
34.3	$40.41 - .56$	$27.73 - .10$	$13.66 - 1.17$	$11.27 - .15$	$60.58 - .09$	$34.51 - .75$	$29.96 - .08$	$32.08 - .14$

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Mean Solar Date.	$\rho$ Octantis, S. P.	$\iota$ Hydr.	$f$ Tauri.	$\gamma$ Camelop.	$\gamma$ Hydr.	$\epsilon$ Persei.	$A^1$ Tauri.	$c$ Persei.
	185° 56' h m 3 16	167° 49' h m 3 18	77° 28' h m 3 24	19° 2' h m 3 37	164° 36' h m 3 49	50° 20' h m 3 49	68° 15' h m 3 57	42° 36' h m 4 0
(Dec. 30.4)	0.87 +2.94	60.47 - .89	20.30 - .06	54.33 - .28	9.16 - .62	54.99 - .06	42.07 - .02	4.68 - .07
Jan. 9.3	3.16 2.34	59.53 .99	20.22 .10	54.01 .37	8.49 .72	54.91 .10	42.02 .08	4.59 .12
19.3	5.56 2.46	58.50 1.06	20.10 .13	53.60 .45	7.73 .80	54.78 .14	41.92 .11	4.45 .16
29.3	8.08 2.53	57.41 1.10	19.96 .15	53.11 .52	6.90 .86	54.63 .17	41.80 .14	4.28 .20
Feb. 8.2	10.61 2.53	56.30 1.11	19.81 .16	52.56 .56	6.03 .90	54.44 .20	41.65 .16	4.06 .23
18.2	13.13 +2.48	55.20 -1.09	19.65 - .16	51.99 - .58	5.11 - .91	54.23 - .21	41.49 - .17	3.82 - .25
28.2	15.56 +2.37	54.12 -1.07	19.49 - .15	51.41 - .58	4.21 - .89	54.01 - .22	41.31 - .18	3.56 - .26
Oct. 5.6	9.46 -1.09	59.78 + .60	22.83 + .22	58.98 + .62	7.86 + .58	57.80 + .30	44.48 + .26	7.62 + .33
15.6	8.56 .71	60.30 .44	23.04 .19	59.56 .54	8.38 .46	58.09 .27	44.73 .24	7.94 .31
25.5	8.04 - .32	60.65 + .25	23.21 + .16	60.06 + .46	8.78 + .33	58.34 + .24	44.95 + .20	8.23 + .27
Nov. 4.5	7.93 + .11	60.80 + .06	23.35 .14	60.48 .37	9.04 .19	58.56 .20	45.13 .18	8.48 .24
14.5	8.27 .54	60.77 - .12	23.48 .11	60.79 .26	9.15 + .04	58.73 .16	45.30 .15	8.70 .20
24.5	9.01 .94	60.55 .31	23.56 .07	61.00 .14	9.12 - .10	58.88 .12	45.43 .11	8.87 .14
Dec. 4.4	10.16 1.34	60.15 .49	23.61 + .03	61.08 + .04	8.94 .26	58.97 .07	45.51 .07	8.98 .09
14.4	11.70 +1.70	59.57 - .66	23.62 .00	61.07 - .08	8.61 - .41	59.02 + .02	45.56 + .03	9.05 + .04
24.4	13.55 1.98	58.83 .81	23.61 - .03	60.92 .21	8.12 .54	59.02 - .02	45.58 .00	9.05 - .02
34.4	15.65 +2.20	57.96 - .93	23.56 - .06	60.65 - .33	7.54 - .60	58.98 - .05	45.56 - .03	9.01 - .06
Mean Solar Date.	$\alpha^1$ Eridani.	$\eta$ Urs.Min., S. P.	$m$ Persei.	$\delta$ Mensæ.	$\tau$ Tauri.	$i$ Tauri.	$\zeta$ Aurigæ.	$\beta$ Eridani.
	97° 9' h m 4 6	346° 2' h m 4 20	47° 11' h m 4 25	170° 29' h m 4 25	67° 16' h m 4 35	71° 22' h m 4 44	49° 6' h m 4 54	95° 14' h m 5 2
(Dec. 30.4)	5.52 - .03	54.44 + .44	5.74 - .02	69.03 - .90	8.72 + .03	27.31 + .01	12.80 + .02	2.27 + .01
Jan. 9.3	5.47 .07	54.97 .61	5.69 .08	68.03 1.09	8.73 - .02	27.30 - .03	12.79 - .04	2.26 - .03
19.3	5.38 .11	55.66 .75	5.59 .13	66.85 1.25	8.67 .09	27.25 .08	12.73 .10	2.21 .08
29.3	5.26 .14	56.46 .84	5.44 .16	65.53 1.37	8.55 .12	27.15 .12	12.60 .15	2.10 .12
Feb. 8.3	5.11 .16	57.33 .90	5.27 .20	64.11 1.45	8.42 .15	27.01 .15	12.44 .18	1.98 .14
18.2	4.95 - .17	58.26 + .95	5.05 - .23	62.64 -1.49	8.26 - .17	26.86 - .16	12.24 - .21	1.83 - .16
28.2	4.77 .17	59.22 .94	4.82 .23	61.13 1.50	8.08 .18	26.69 .17	12.02 .23	1.66 .17
Mar. 10.2	4.60 - .16	60.13 + .86	4.59 - .22	59.65 -1.45	7.90 - .18	26.51 - .18	11.79 - .23	1.48 - .18
Oct. 15.6	7.63 + .21	53.55 - .75	8.66 + .30	64.43 + .96	11.17 + .27	29.59 + .26	15.43 + .33	4.03 + .23
25.6	7.83 + .19	52.87 - .61	8.95 + .29	65.20 + .67	11.43 + .25	29.84 + .24	15.75 + .31	4.26 + .23
Nov. 4.5	8.01 .16	52.33 .47	9.23 .26	65.77 .45	11.66 .21	30.07 .22	16.04 .28	4.49 .21
14.5	8.15 .13	51.94 .32	9.46 .22	66.10 + .21	11.85 .18	30.28 .19	16.31 .25	4.67 .18
24.5	8.27 .10	51.70 - .14	9.66 .17	66.19 - .04	12.02 .16	30.45 .15	16.54 .20	4.85 .16
Dec. 4.5	8.34 .05	51.65 + .03	9.80 .11	66.02 .30	12.16 .11	30.58 .12	16.71 .15	4.99 .12
14.4	8.37 + .02	51.76 + .20	9.88 + .06	65.59 - .54	12.23 + .06	30.68 + .08	16.84 + .10	5.07 + .07
24.4	8.38 - .01	52.05 .37	9.89 + .02	64.94 .76	12.28 + .03	30.73 + .04	16.92 .06	5.13 + .04
34.4	8.35 - .04	52.51 + .54	9.92 - .03	64.06 -1.00	12.29 - .01	30.75 .00	16.95 + .01	5.15 .00



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Mean Solar Date.	$\tau$ Orionis.	Groombr. 944.	$\chi$ Aurigæ.	$\kappa$ Orionis.	$\nu$ Aurigæ.	$\delta$ Doradus.	$\beta$ Aurigæ.	$\theta$ Aurigæ.
	$96^{\circ} 58'$ h m 5 11	$4^{\circ} 52'$ h m 5 24	$57^{\circ} 54'$ h m 5 25	$99^{\circ} 43'$ h m 5 42	$50^{\circ} 53'$ h m 5 43	$155^{\circ} 47'$ h m 5 44	$45^{\circ} 4'$ h m 5 50	$52^{\circ} 48'$ h m 5 51
(Dec. 30.4)	<sup>s</sup> 51.99 + .02	<sup>s</sup> 22.71 - .20	<sup>s</sup> 1.95 + .05	<sup>s</sup> 9.07 + .05	<sup>s</sup> 17.70 + .07	<sup>s</sup> 37.06 - .13	<sup>s</sup> 51.43 + .09	<sup>s</sup> 39.54 + .09
Jan. 9.4	51.99 - .02	22.26 .70	1.98 .00	9.10 .00	17.75 + .01	36.88 .23	51.49 + .03	39.60 + .03
19.4	51.95 .06	21.31 1.17	1.96 - .05	9.07 - .05	17.74 - .04	36.60 .32	51.48 - .04	39.60 - .03
29.4	51.87 .11	19.92 1.59	1.89 .11	9.01 .09	17.67 .10	36.24 .40	51.40 .10	39.54 .09
Feb. 8.3	51.72 .14	18.13 1.94	1.75 .15	8.89 .13	17.55 .14	35.81 .47	51.28 .15	39.43 .13
18.3	51.58 - .16	16.04 -2.20	1.59 - .17	8.75 - .15	17.39 - .18	35.30 - .52	51.10 - .20	39.28 - .18
28.3	51.41 .17	13.74 2.36	1.41 .18	8.59 .17	17.19 .21	34.77 .55	50.88 .23	39.08 .21
Mar. 10.3	51.23 .18	11.33 2.42	1.21 .20	8.41 .18	16.97 .22	34.20 .57	50.64 .25	38.87 .21
20.2	51.05 - .18	8.91 -2.42	1.00 - .21	8.23 - .18	16.75 - .22	33.63 - .56	50.39 - .25	38.66 - .20
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Oct. 25.6	53.90 + .24	32.58 +2.57	4.49 + .30	10.76 + .26	20.25 + .35	35.88 + .47	54.05 + .39	42.00 + .34
Nov. 4.6	54.13 .22	35.00 2.25	4.78 .28	11.01 .24	20.59 .32	36.32 .41	54.42 .35	42.33 .31
14.6	54.33 .19	37.08 1.92	5.04 .25	11.23 .21	20.88 .29	36.69 .32	54.75 .32	42.62 .29
24.5	54.51 .16	38.84 1.54	5.27 .21	11.43 .19	21.16 .26	36.96 .23	55.05 .28	42.90 .26
Dec. 4.5	54.65 .12	40.16 1.09	5.46 .18	11.60 .16	21.40 .21	37.15 .13	55.31 .24	43.14 .22
14.5	54.74 + .08	41.01 + .60	5.64 + .14	11.74 + .11	21.58 + .16	37.22 + .03	55.53 + .19	43.34 + .17
24.5	54.80 .05	41.36 + .10	5.73 .08	11.81 .06	21.71 .11	37.21 - .07	55.68 .12	43.48 .12
34.4	54.83 + .02	41.20 - .41	5.80 + .03	11.86 + .03	21.79 + .06	37.08 - .17	55.76 + .05	43.57 + .06
Mean Solar Date.	$\eta$ Geminor.	$\psi^1$ Aurigæ.	$\nu$ Geminor.	$\chi$ Draconis, S. P.	$\epsilon$ Geminor.	$\psi^5$ Aurigæ.	$\theta$ Geminor.	$\zeta$ Mensæ.
	$67^{\circ} 28'$ h m 6 7	$40^{\circ} 39'$ h m 6 15	$69^{\circ} 43'$ h m 6 21	$342^{\circ} 41'$ h m 6 23	$64^{\circ} 45'$ h m 6 36	$46^{\circ} 18'$ h m 6 38	$55^{\circ} 54'$ h m 6 44	$170^{\circ} 41'$ h m 6 49
(Dec. 30.5)	<sup>s</sup> 44.42 + .09	<sup>s</sup> 47.68 + .11	<sup>s</sup> 56.53 + .09	<sup>s</sup> 7.10 + .04	<sup>s</sup> 39.41 + .11	<sup>s</sup> 13.01 + .13	<sup>s</sup> 59.74 + .12	<sup>s</sup> 62.32 - .14
Jan. 9.5	44.49 + .05	47.77 + .06	56.60 + .05	7.20 .16	39.50 .07	13.12 .08	59.85 .09	62.05 .40
19.4	44.51 - .01	47.79 - .01	56.63 .00	7.41 .30	39.55 + .01	13.17 + .02	59.92 + .04	61.53 .64
29.4	44.47 .06	47.74 .08	56.61 - .04	7.81 .44	39.54 - .04	13.15 - .04	59.92 - .02	60.77 .87
Feb. 8.4	44.39 .11	47.62 .15	56.55 .10	8.31 .53	39.48 .09	13.08 .11	59.87 .09	59.80 1.07
18.4	44.26 - .14	47.45 - .20	56.42 - .14	8.87 + .62	39.37 - .12	12.94 - .16	59.75 - .14	58.64 -1.23
28.3	44.11 .16	47.23 .24	56.28 .16	9.55 .72	39.24 .16	12.76 .20	59.60 .17	57.34 1.36
Mar. 10.3	43.94 .18	46.97 .27	56.11 .18	10.30 .75	39.06 .18	12.55 .22	59.42 .19	55.92 1.46
20.3	43.75 .19	46.70 .27	55.93 .18	11.05 .76	38.88 .19	12.32 .24	59.22 .20	54.43 1.51
30.3	43.57 .16	46.42 .27	55.75 .18	11.82 .77	38.69 .18	12.07 .24	59.02 .21	52.91 1.52
Apr. 9.2	43.39 - .17	46.16 - .25	55.58 - .17	12.58 + .75	38.51 - .17	11.83 - .23	58.80 - .22	51.39 -1.51
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Nov. 14.6	47.08 + .27	50.97 + .38	59.06 + .28	7.43 - .56	41.96 + .31	15.96 + .37	62.45 + .34	55.73 + .99
24.6	47.34 .24	51.33 .33	59.33 .25	6.92 .46	42.25 .27	16.31 .33	62.77 .30	56.61 .77
Dec. 4.6	47.56 .21	51.63 .28	59.56 .22	6.52 .33	42.50 .24	16.61 .29	63.04 .26	57.27 .54
14.5	47.75 + .17	51.89 + .23	59.76 + .18	6.26 - .20	42.73 + .20	16.88 + .25	63.29 + .23	57.69 + .29
24.5	47.89 .12	52.09 .17	59.92 .13	6.12 - .07	42.90 .16	17.10 .19	63.49 .18	57.85 + .03
34.5	47.98 + .07	52.22 + .10	60.02 + .08	6.13 + .08	43.04 + .12	17.25 + .12	63.64 + .13	57.74 - .24

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Mean Solar Date.	ζ Geminor.	63 Aurigæ.	25 Camelop.	γ <sup>2</sup> Volantis.	β Can. Min.	Groombr. 1374.	26 Lynceis.	ω <sup>1</sup> Cancri.
	69° 15' h m 6 57	50° 29' h m 7 3	7° 22' h m 7 6	160° 18' h m 7 9	81° 28' h m 7 20	15° 46' h m 7 45	42° 8' h m 7 46	64° 17' h m 7 53
(Dec. 30.5)	<sup>s</sup> 5.76 + .13	<sup>s</sup> 31.32 + .17	<sup>s</sup> 12.75 + .68	<sup>s</sup> 49.16 + .05	<sup>s</sup> 44.31 + .15	<sup>s</sup> 62.59 + .52	<sup>s</sup> 6.03 + .24	<sup>s</sup> 46.50 + .20
Jan. 9.5	5.87 .09	31.47 .12	13.24 + .30	49.15 - .07	44.44 .11	63.01 .32	6.24 .18	46.68 .16
19.5	5.94 + .04	31.55 + .05	13.35 - .05	49.02 .20	44.52 + .05	63.23 + .15	6.39 .11	46.81 .10
29.5	5.95 - .01	31.56 - .01	13.13 .39	48.76 .31	44.55 .00	63.30 - .01	6.46 + .04	46.87 + .04
Feb. 8.4	5.92 .06	31.52 .07	12.58 .71	48.40 .42	44.53 - .05	63.20 .18	6.46 - .03	46.89 - .01
18.4	5.83 - .11	31.42 - .13	11.72 - .99	47.93 - .51	44.46 - .09	62.93 - .33	6.40 - .10	46.85 - .06
28.4	5.69 .14	31.27 .17	10.60 1.23	47.30 .58	44.35 .12	62.54 .46	6.25 .17	46.77 .11
Mar. 10.3	5.55 .16	31.08 .20	9.27 1.42	46.78 .64	44.22 .14	62.00 .58	6.07 .20	46.64 .15
20.3	5.38 .17	30.87 .22	7.78 1.52	46.12 .67	44.07 .16	61.39 .64	5.86 .23	46.48 .17
30.3	5.20 .18	30.65 .22	6.24 1.57	45.44 .68	43.90 .17	60.71 .70	5.61 .26	46.31 .17
Apr. 9.3	5.02 - .18	30.43 - .20	4.65 -1.56	44.75 - .68	43.73 - .16	60.00 - .71	5.35 - .26	46.14 - .17
19.2	4.85 - .17	30.23 - .18	3.12 -1.48	44.08 - .66	43.57 - .15	59.29 - .69	5.09 - .25	45.97 - .16
Nov. 24.6	8.44 + .27	34.37 + .31	20.67 +1.62	47.83 + .50	46.67 + .27	66.66 + .88	9.00 + .42	49.02 + .31
Dec. 4.6	8.70 .25	34.67 .29	22.19 1.41	48.27 .38	46.93 .25	67.50 .80	9.40 .39	49.32 .29
14.6	8.93 + .21	34.95 + .26	23.49 +1.15	48.59 + .26	47.17 + .22	68.26 + .69	9.77 + .33	49.60 + .27
24.6	9.12 .17	35.19 .21	24.48 .83	48.80 + .14	47.37 .18	68.88 .56	10.05 .27	49.86 .24
34.5	9.26 + .12	35.37 + .15	25.15 + .51	48.87 .00	47.53 + .14	69.38 + .44	10.31 + .21	50.07 + .19
Mean Solar Date.	ζ <sup>1</sup> Cancri.	β Cancri.	30 Mono- cerotis.	θ Chamæ- leontis.	σ Hydræ.	γ Cancri.	σ <sup>2</sup> Cancri, (mean).	θ Hydræ.
	72° 0' h m 8 5	80° 27' h m 8 10	93° 31' h m 8 19	167° 6' h m 8 24	86° 15' h m 8 32	68° 6' h m 8 36	58° 58' h m 8 47	87° 11' h m 9 8
(Dec. 30.6)	<sup>s</sup> 25.71 + .20	<sup>s</sup> 6.02 + .20	<sup>s</sup> 45.11 + .20	<sup>s</sup> 16.01 + .35	<sup>s</sup> 34.53 + .20	<sup>s</sup> 26.38 + .24	<sup>s</sup> 1.52 + .25	<sup>s</sup> 12.54 + .25
Jan. 9.5	25.89 .16	6.20 .16	45.29 .16	16.27 + .18	34.72 .17	26.60 .20	1.76 .22	12.77 .21
19.5	26.03 .11	6.34 .10	45.42 .10	16.36 - .01	34.88 .12	26.77 .14	1.96 .16	12.95 .16
29.5	26.10 + .05	6.40 + .05	45.49 .05	16.25 .19	34.96 .07	26.87 .08	2.08 .10	13.08 .11
Feb. 8.5	26.13 .00	6.43 .00	45.52 + .01	15.98 .36	35.01 + .03	26.93 + .03	2.15 + .05	13.16 + .06
18.4	26.11 - .05	6.41 - .04	45.51 - .04	15.53 - .53	35.01 - .02	26.94 - .01	2.18 - .01	13.20 .00
28.4	26.04 .10	6.35 .09	45.45 .09	14.92 .67	34.96 .07	26.90 .07	2.13 .07	13.17 - .04
Mar. 10.4	25.92 .13	6.23 .12	45.34 .12	14.19 .78	34.87 .10	26.81 .11	2.04 .11	13.12 .08
20.4	25.78 .15	6.10 .14	45.22 .14	13.36 .87	34.76 .13	26.68 .14	1.92 .14	13.02 .11
30.3	25.62 .16	5.95 .15	45.07 .16	12.45 .94	34.62 .15	26.54 .15	1.76 .16	12.91 .12
Apr. 9.3	25.46 - .17	5.80 - .16	44.91 - .17	11.49 - .98	34.47 - .16	26.38 - .16	1.60 - .17	12.78 - .14
19.3	25.28 .17	5.64 .17	44.74 .16	10.50 1.00	34.31 .15	26.22 .17	1.42 .18	12.63 .15
29.3	25.13 .15	5.47 .16	44.59 .15	9.49 1.00	34.16 .14	26.05 .16	1.24 .18	12.49 .14
May 9.2	24.99 - .13	5.34 - .13	44.45 - .13	8.51 - .96	34.02 - .13	25.90 - .14	1.07 - .17	12.35 - .13



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Mean Solar Date.	$\beta$ Argus.	$\alpha$ Lyncis.	10 Leonis Minoris.	$\sigma$ Leonis.	$\zeta$ Chamæ- leontis.	19 Leonis Minoris.	$\pi$ Leonis.	$\lambda$ Ursæ Majoris.
	159° 14' h m 9 11	55° 7' h m 9 13	53° 5' h m 9 26	79° 34' h m 9 34	170° 24' h m 9 37	48° 23' h m 9 50	81° 23' h m 9 53	46° 30' h m 10 9
(Dec. 30.6)	<sup>s</sup> 56.68 + .40	<sup>s</sup> 50.67 + .28	<sup>s</sup> 58.33 + .29	<sup>s</sup> 50.03 + .26	<sup>s</sup> 25.90 + .86	<sup>s</sup> 26.00 + .33	<sup>s</sup> 57.48 + .26	<sup>s</sup> 57.26 + .39
Jan. 9.6	57.03 .30	50.93 .25	58.61 .26	50.28 .23	26.66 .66	26.32 .30	57.73 .24	57.62 .33
19.6	57.27 .18	51.16 .20	58.86 .22	50.49 .19	27.21 .43	26.60 .25	57.96 .20	57.92 .23
29.5	57.39 + .06	51.33 .14	59.05 .16	50.65 .14	27.51 + .19	26.82 .19	58.13 .16	58.17 .22
Feb. 8.5	57.39 - .06	51.43 .08	59.17 .09	50.76 .09	27.59 - .04	26.98 .12	58.27 .11	58.36 .15
18.5	57.27 - .17	51.48 + .02	59.23 + .04	50.82 + .04	27.42 - .28	27.06 + .06	58.34 + .06	58.46 + .09
28.4	57.05 .28	51.47 - .04	59.24 - .02	50.84 - .01	27.04 .48	27.10 .00	58.38 + .01	58.53 + .03
Mar. 10.4	56.72 .36	51.41 .09	59.19 .07	50.80 .06	26.46 .67	27.07 - .06	58.37 - .04	58.52 - .04
20.4	56.33 .43	51.29 .13	59.08 .13	50.73 .09	25.71 .83	26.99 .11	58.31 .07	58.45 .10
30.4	55.87 .49	51.15 .15	58.94 .15	50.63 .11	24.80 .98	26.85 .15	58.23 .10	58.33 .14
Apr. 9.3	55.35 - .53	50.99 - .18	58.78 - .17	50.51 - .13	23.75 -1.10	26.70 - .17	58.12 - .12	58.18 - .17
19.3	54.81 .55	50.80 .19	58.60 .19	50.37 .14	22.61 1.18	26.52 .19	57.99 .13	58.00 .19
29.3	54.25 .57	50.62 .18	58.41 .18	50.23 .13	21.40 1.23	26.32 .20	57.86 .13	57.81 .20
May 9.3	53.68 .56	50.43 .18	58.23 .17	50.10 .13	20.16 1.26	26.12 .20	57.73 .13	57.60 .20
19.2	53.12 - .55	50.27 - .16	58.06 - .16	49.97 - .12	18.89 -1.28	25.93 - .19	57.60 - .12	57.41 - .18
Mean Solar Date.	$\mu$ Hydræ.	$\beta$ Leonis Minoris.	$\alpha$ Antlæ.	$\beta$ Octantis, S. P.	41 Leonis Minoris.	$\delta^2$ Chamæ- leontis.	46 Leonis Minoris.	Groombr. 1706.
	106° 14' h m 10 20	52° 41' h m 10 21	120° 28' h m 10 21	188° 0' h m 10 33	66° 12' h m 10 36	169° 55' h m 10 44	55° 9' h m 10 46	11° 36' h m 10 50
Jan. 19.6	<sup>s</sup> 22.52 + .22	<sup>s</sup> 2.71 + .27	<sup>s</sup> 44.85 + .22	<sup>s</sup> 42.98 - .72	<sup>s</sup> 59.09 + .24	<sup>s</sup> 45.03 + .80	<sup>s</sup> 41.78 + .28	<sup>s</sup> 30.05 + .92
29.6	22.72 .17	2.95 .21	45.05 .18	42.38 .48	59.32 .21	45.73 .60	42.04 .24	30.88 .75
Feb. 8.5	22.87 .12	3.13 .15	45.21 .13	42.03 - .23	59.51 .16	46.23 .39	42.25 .19	31.54 .55
18.5	22.96 .08	3.24 .09	45.30 .07	41.93 + .01	59.64 .11	46.51 + .18	42.41 .13	31.98 .34
28.5	23.01 + .03	3.32 + .04	45.35 + .02	42.05 .24	59.72 .05	46.60 - .02	42.50 .07	32.23 + .13
Mar. 10.5	23.02 - .02	3.32 - .01	45.34 - .02	42.42 + .48	59.75 + .01	46.47 - .22	42.54 + .01	32.23 - .10
20.4	22.99 .05	3.29 .06	45.31 .06	43.02 .70	59.74 - .04	46.16 .40	42.53 - .03	32.04 .29
30.4	22.92 .08	3.20 .11	45.22 .10	43.83 .92	59.68 .07	45.66 .58	42.48 .07	31.65 .48
Apr. 9.4	22.82 .11	3.07 .14	45.11 .12	44.85 1.10	59.60 .10	45 00 .72	42.39 .11	31.08 .64
19.4	22.71 .13	2.92 .16	44.98 .14	46.03 1.26	59.49 .12	44.22 .84	42.26 .14	30.38 .76
29.3	22.59 - .13	2.75 - .17	44.84 - .15	47.37 +1.40	59.36 - .14	43.32 - .95	42.12 - .15	29.56 - .86
May 9.3	22.46 .13	2.58 .18	44.69 .15	48.83 1.51	59.22 .14	42.32 1.03	41.96 .16	28.67 .92
19.3	22.33 .13	2.40 .17	44.54 .15	50.38 1.58	59.08 .14	41.27 1.03	41.81 .16	27.72 .95
29.3	22.20 .12	2.23 .16	44.38 .15	51.99 1.62	58.95 .13	40.17 1.12	41.64 .16	26.77 .94
June 8.2	22.08 - .11	2.08 - .14	44.24 - .14	53.61 +1.61	58.83 - .11	39.04 -1.12	41.49 - .15	25.85 - .90

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Mean Solar Date.	$\eta$ Octantis.	$p^3$ Leonis.	$\psi$ Urs. Maj.	$\nu$ Urs. Maj.	$\xi$ Hydræ.	$\chi$ Urs. Maj.	$\pi$ Virginis.	$\epsilon$ Corvi.
	173° 58' h m 11 0	87° 24' h m 11 0	44° 52' h m 11 3	56° 16' h m 11 12	121° 12' h m 11 27	41° 34' h m 11 39	82° 44' h m 11 54	111° 58' h m 12 4
Feb. 8.6	<sup>s</sup> 17.09 + .75	<sup>s</sup> 52.65 + .16	<sup>s</sup> 1.32 + .22	<sup>s</sup> 5.91 + .22	<sup>s</sup> 11.70 + .19	<sup>s</sup> 48.79 + .28	<sup>s</sup> 48.94 + .22	<sup>s</sup> 2.95 + .22
18.6	17.67 .41	52.79 .12	1.51 .16	6.10 .16	11.88 .16	49.04 .22	49.14 .18	3.16 .19
28.5	17.91 + .08	52.89 .08	1.64 .10	6.22 .10	12.02 .11	49.22 .15	49.30 .13	3.33 .14
Mar. 10.5	17.84 - .24	52.94 + .03	1.70 + .04	6.29 + .04	12.09 .05	49.33 .08	49.40 .08	3.44 .10
20.5	17.42 .55	52.95 - .01	1.71 - .02	6.30 - .01	12.13 + .01	49.38 + .02	49.46 .05	3.53 .07
30.4	16.74 - .84	52.92 - .04	1.65 - .09	6.27 - .05	12.13 - .02	49.37 - .04	49.50 + .02	3.57 + .03
Apr. 9.4	15.75 1.10	52.88 .06	1.54 .12	6.21 .09	12.09 .06	49.30 .10	49.50 - .01	3.58 .00
19.4	14.53 1.34	52.80 .08	1.41 .15	6.10 .12	12.02 .08	49.18 .14	49.47 .05	3.56 - .03
29.4	13.08 1.54	52.71 .10	1.24 .18	5.98 .13	11.94 .10	49.03 .17	49.40 .07	3.52 .05
May 9.3	11.46 1.69	52.60 .11	1.06 .19	5.84 .15	11.82 .12	48.85 .19	49.33 .08	3.45 .07
19.3	9.71 -1.81	52.48 - .11	0.86 - .20	5.69 - .15	11.69 - .13	48.66 - .20	49.25 - .10	3.37 - .09
29.3	7.85 1.88	52.38 .11	0.65 .20	5.54 .16	11.56 .14	48.45 .22	49.14 .10	3.28 .10
June 8.3	5.95 1.90	52.28 .10	0.47 .19	5.38 .15	11.41 .14	48.22 .22	49.04 .10	3.16 .11
18.2	4.06 -1.88	52.18 - .09	0.27 - .19	5.23 - .14	11.27 - .14	48.01 - .20	48.94 - .09	3.05 - .11
Mean Solar Date.	2 Can. Ven.	6 Urs. Min.	$\delta^2$ Corvi.	$\beta$ Can. Ven.	$\gamma$ Virginis, (mean.)	31 Cor. Bor.	$\gamma$ Cassiop., S. P.	43 Cephei, S. P.
	48° 41' h m 12 10	1° 39' h m 12 14	105° 51' h m 12 23	48° 0' h m 12 28	90° 48' h m 12 35	61° 49' h m 12 45	330° 5' h m 12 49	355° 37' h m 12 52
Feb. 8.6	<sup>s</sup> 12.26 + .27	<sup>s</sup> 48.73 +5.47	<sup>s</sup> 44.98 + .23	<sup>s</sup> 7.88 + .27	<sup>s</sup> 40.17 + .25	<sup>s</sup> 56.40 + .28	<sup>s</sup> 32.37 - .29	<sup>s</sup> 37.74 -2.28
18.6	12.51 .23	53.58 4.23	45.20 .20	8.14 .25	40.40 .21	56.66 .24	32.11 .23	35.64 1.90
28.6	12.72 .18	57.18 2.97	45.38 .16	8.37 .20	40.58 .17	56.87 .20	31.92 .17	33.94 1.48
Mar. 10.5	12.86 .11	59.52 1.63	45.52 .12	8.53 .14	40.73 .12	57.05 .16	31.77 .10	32.69 1.01
20.5	12.94 .06	60.43 + .21	45.62 .08	8.64 .09	40.82 .09	57.18 .10	31.72 - .02	31.92 - .48
30.5	12.98 + .01	59.95 -1.17	45.68 + .05	8.70 + .03	40.90 + .06	57.24 + .06	31.73 + .06	31.73 + .09
Apr. 9.5	12.97 - .04	58.09 2.51	45.71 + .02	8.70 - .02	40.94 + .03	57.29 + .03	31.85 .16	32.11 .62
19.4	12.91 .07	54.97 3.72	45.71 - .01	8.66 .06	40.95 .00	57.29 - .01	32.04 .23	32.97 1.12
29.4	12.82 .11	50.68 4.80	45.69 .04	8.59 .10	40.93 - .03	57.26 .05	32.30 .31	34.35 1.61
May 9.4	12.69 .14	45.43 5.68	45.64 .06	8.47 .13	40.90 .05	57.19 .07	32.66 .39	36.19 2.03
19.4	12.55 - .15	39.35 -6.38	45.57 - .08	8.34 - .15	40.83 - .07	57.11 - .10	33.07 + .44	38.39 +2.38
29.3	12.39 .17	32.70 6.86	45.49 .09	8.18 .17	40.76 .08	57.00 .12	33.53 .48	40.94 2.66
June 8.3	12.22 .18	25.66 7.16	45.40 .10	8.01 .18	40.68 .09	56.89 .12	34.02 .52	43.69 2.84
18.3	12.04 - .18	18.43 -7.23	45.30 - .10	7.82 - .19	40.58 - .10	56.77 - .11	34.57 + .56	46.61 +2.98



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Mean Solar Date.	$\delta$ Muscæ.	$\varepsilon$ Virginis.	20 Can. Ven.	$\kappa$ Octantis.	B.A.C. 4536.	$m$ Virginis.	$\theta$ Apodis.	$\pi$ Hydræ.
	$160^{\circ} 55'$	$78^{\circ} 24'$	$48^{\circ} 48'$	$175^{\circ} 11'$	$52^{\circ} 13'$	$98^{\circ} 6'$	$166^{\circ} 13'$	$116^{\circ} 7'$
	$\begin{smallmatrix} h & m \\ 12 & 54 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 12 & 56 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 13 & 12 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 13 & 22 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 13 & 29 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 13 & 35 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 13 & 53 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 13 & 59 \end{smallmatrix}$
Feb. 28.6	$\begin{smallmatrix} s \\ 11.75 + .46 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 17.84 + .18 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 15.01 + .24 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 13.35 + 1.94 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 31.46 + .26 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.59 + .21 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 53.43 + .82 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 38.62 + .23 \end{smallmatrix}$
Mar. 10.6	$\begin{smallmatrix} s \\ 12.16 .35 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.01 .16 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 15.23 .20 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 15.10 1.56 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 31.70 .21 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.79 .19 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.20 .72 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 38.85 .22 \end{smallmatrix}$
20.6	$\begin{smallmatrix} s \\ 12.45 .26 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.15 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 15.40 .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 16.48 1.19 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 31.87 .16 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.96 .16 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.86 .59 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 39.07 .20 \end{smallmatrix}$
30.5	$\begin{smallmatrix} s \\ 12.67 .16 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.22 .07 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 15.50 .09 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 17.48 .81 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 32.01 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 25.10 .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 55.37 .46 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 39.24 .16 \end{smallmatrix}$
Apr. 9.5	$\begin{smallmatrix} s \\ 12.76 + .06 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.28 .05 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 15.57 + .05 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.09 .43 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 32.09 .06 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 25.20 .09 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 55.77 .33 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 39.38 .12 \end{smallmatrix}$
19.5	$\begin{smallmatrix} s \\ 12.78 - .03 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.31 + .01 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 15.59 .00 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.33 + .04 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 32.13 + .03 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 25.27 + .06 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 56.03 + .20 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 39.48 + .09 \end{smallmatrix}$
29.5	$\begin{smallmatrix} s \\ 12.70 .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.29 - .02 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 15.58 - .04 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.17 - .36 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 32.13 - .01 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 25.31 + .03 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 56.16 + .07 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 39.56 .06 \end{smallmatrix}$
May 9.4	$\begin{smallmatrix} s \\ 12.55 .20 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.27 .05 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 15.52 .09 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 17.62 .74 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 32.10 .05 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 25.33 .00 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 56.16 - .07 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 39.60 .04 \end{smallmatrix}$
19.4	$\begin{smallmatrix} s \\ 12.30 .29 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.21 .07 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 15.41 .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 16.70 1.07 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 32.03 .09 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 25.31 - .03 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 56.03 .20 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 39.63 + .01 \end{smallmatrix}$
29.4	$\begin{smallmatrix} s \\ 11.98 .35 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.14 .08 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 15.29 .13 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 15.48 1.38 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 31.92 .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 25.28 .04 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 55.77 .31 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 39.62 - .02 \end{smallmatrix}$
June 8.4	$\begin{smallmatrix} s \\ 11.60 - .41 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.06 - .10 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 15.15 - .16 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 13.94 - 1.68 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 31.80 - .13 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 25.23 - .06 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 55.41 - .43 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 39.59 - .05 \end{smallmatrix}$
18.3	$\begin{smallmatrix} s \\ 11.16 .47 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 17.95 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 14.98 .17 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 12.13 1.91 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 31.66 .15 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 25.17 .08 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.91 .53 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 39.52 .08 \end{smallmatrix}$
28.3	$\begin{smallmatrix} s \\ 10.67 .48 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 17.84 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 14.80 .19 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 10.12 2.09 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 31.50 .17 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 25.08 .10 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.35 .61 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 39.43 .10 \end{smallmatrix}$
July 8.3	$\begin{smallmatrix} s \\ 10.20 - .46 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 17.73 - .10 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 14.61 - .19 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 7.95 - 2.25 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 31.33 - .17 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.97 - .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 53.70 - .68 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 39.32 - .11 \end{smallmatrix}$
Mean Solar Date.	$\alpha$ Bootis.	$\kappa$ Virginis.	$\delta$ Octantis.	4 Urs. Min.	$\lambda$ Bootis.	$\lambda$ Virginis.	$\alpha$ Apodis.	$\mu$ Hydri, S. P.
	$64^{\circ} 21'$	$99^{\circ} 43'$	$173^{\circ} 7'$	$11^{\circ} 54'$	$43^{\circ} 22'$	$102^{\circ} 50'$	$168^{\circ} 32'$	$190^{\circ} 23'$
	$\begin{smallmatrix} h & m \\ 14 & 5 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 14 & 6 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 14 & 8 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 14 & 9 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 14 & 11 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 14 & 12 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 14 & 33 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 14 & 34 \end{smallmatrix}$
Mar. 20.6	$\begin{smallmatrix} s \\ 1.05 + .19 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 35.84 + .18 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 15.18 + 1.22 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.81 + .58 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.35 + .22 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 43.24 + .19 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 17.99 + .86 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 7.05 - .84 \end{smallmatrix}$
30.6	$\begin{smallmatrix} s \\ 1.22 .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 36.01 .16 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 16.29 .99 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 25.29 .38 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.55 .17 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 43.42 .16 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.79 .73 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 6.28 .69 \end{smallmatrix}$
Apr. 9.5	$\begin{smallmatrix} s \\ 1.33 .10 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 36.15 .13 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 17.15 .72 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 25.57 .19 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.69 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 43.56 .13 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.45 .58 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 5.67 .52 \end{smallmatrix}$
19.5	$\begin{smallmatrix} s \\ 1.41 .07 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 36.24 .09 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 17.73 .46 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 25.67 + .01 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.77 .06 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 43.68 .10 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.95 .42 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 5.25 .32 \end{smallmatrix}$
29.5	$\begin{smallmatrix} s \\ 1.47 + .04 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 36.32 .06 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.07 + .19 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 25.59 - .18 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.81 + .02 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 43.75 .07 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 20.29 .26 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 5.02 - .13 \end{smallmatrix}$
May 9.5	$\begin{smallmatrix} s \\ 1.49 .00 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 36.36 + .03 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.10 - .10 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 25.31 - .35 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.81 - .03 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 43.81 + .04 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 20.47 + .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 4.99 + .07 \end{smallmatrix}$
19.4	$\begin{smallmatrix} s \\ 1.48 - .03 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 36.38 .00 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 17.87 .35 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.89 .51 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.75 .08 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 43.83 + .01 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 20.51 - .05 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 5.16 .26 \end{smallmatrix}$
29.4	$\begin{smallmatrix} s \\ 1.44 .06 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 36.38 - .02 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 17.40 .61 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.30 .65 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.66 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 43.83 - .02 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 20.37 .22 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 5.52 .45 \end{smallmatrix}$
June 8.4	$\begin{smallmatrix} s \\ 1.37 .08 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 36.35 .04 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 16.65 .87 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 23.59 .77 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.53 .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 43.80 .04 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 20.07 .38 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 6.06 .63 \end{smallmatrix}$
18.4	$\begin{smallmatrix} s \\ 1.29 .10 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 36.30 .06 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 15.67 1.08 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 22.77 .86 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.38 .17 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 43.76 .06 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.62 .51 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 6.78 .79 \end{smallmatrix}$
28.3	$\begin{smallmatrix} s \\ 1.17 - .13 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 36.23 - .08 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 14.51 - 1.25 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 21.87 - .93 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.19 - .20 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 43.69 - .09 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.05 - .64 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 7.64 + .92 \end{smallmatrix}$
July 8.3	$\begin{smallmatrix} s \\ 1.04 .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 36.14 .10 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 13.18 1.41 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 20.91 .98 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 53.99 .22 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 43.59 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.34 .75 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 8.62 1.04 \end{smallmatrix}$
18.3	$\begin{smallmatrix} s \\ 0.90 .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 36.02 .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 11.69 1.55 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.91 1.01 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 53.76 .23 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 43.48 .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 17.55 .84 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 9.72 1.13 \end{smallmatrix}$
28.2	$\begin{smallmatrix} s \\ 0.75 - .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 35.90 - .13 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 10.09 - 1.65 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.90 - 1.01 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 53.53 - .23 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 43.36 - .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 16.67 - .92 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 10.87 + 1.16 \end{smallmatrix}$

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Mean Solar Date.	33 Bootis.	47 Cephei, S. P.	$\gamma$ Scorpii.	$\delta$ Bootis.	$\rho$ Octantis.	$\beta$ Cor.Bor.	$\gamma$ Camelop., S. P.	$\delta^1$ Apodis.
	45° 5' <sub>h m</sub> 14 34	348° 57' <sub>h m</sub> 14 50	114° 49' <sub>h m</sub> 14 57	56° 15' <sub>h m</sub> 15 10	174° 4' <sub>h m</sub> 15 16	60° 29' <sub>h m</sub> 15 22	340° 58' <sub>h m</sub> 15 37	168° 24' <sub>h m</sub> 16 2
Mar. 30.6	<sup>s</sup> 27.34 + .19	<sup>s</sup> 18.57 - .46	<sup>s</sup> 9.69 + .21	<sup>s</sup> 44.94 + .22	<sup>s</sup> 21.88 + 1.78	<sup>s</sup> 57.92 + .21	<sup>s</sup> 49.94 - .40	<sup>s</sup> 46.12 + 1.10
Apr. 9.6	27.51 .14	18.19 .29	9.89 .19	45.14 .18	23.52 1.50	58.12 .19	49.61 .27	47.16 .98
19.6	27.62 .09	18.00 - .08	10.06 .16	45.29 .14	24.88 1.21	58.29 .15	49.41 .14	48.07 .84
29.5	27.69 .06	18.04 + .14	10.21 .13	45.41 .10	25.94 .90	58.42 .11	49.34 - .01	48.84 .70
May 9.5	27.73 + .01	18.29 .37	10.30 .09	45.49 .06	26.67 .58	58.51 .08	49.40 + .11	49.46 .55
19.5	27.71 - .05	18.78 + .58	10.38 + .07	45.53 + .03	27.09 + .24	58.57 + .05	49.56 + .24	49.93 + .38
29.5	27.64 .09	19.45 .75	10.43 + .03	45.54 - .01	27.16 - .09	58.60 + .01	49.88 .37	50.21 .20
June 8.4	27.53 .12	20.28 .91	10.44 - .01	45.51 .05	26.91 .42	58.59 - .03	50.30 .49	50.33 + .03
18.4	27.41 .15	21.26 1.06	10.42 .04	45.45 .09	26.32 .74	58.54 .06	50.85 .58	50.27 - .15
28.4	27.24 .18	22.40 1.18	10.38 .06	45.34 .12	25.42 1.05	58.47 .10	51.45 .66	50.03 .32
July 8.4	27.06 - .20	23.61 + 1.25	10.30 - .09	45.22 - .14	24.23 - 1.31	58.35 - .13	52.16 + .73	49.63 - .47
18.3	26.84 .22	24.89 1.30	10.19 .12	45.06 .16	22.81 1.54	58.22 .14	52.91 .77	49.10 .62
28.3	26.62 .23	26.20 1.32	10.07 .14	44.90 .18	21.15 1.73	58.07 .16	53.69 .80	48.40 .75
Aug. 7.3	26.38 .24	27.52 1.31	9.92 .15	44.71 .20	19.36 1.83	57.89 .18	54.51 .81	47.60 .85
17.2	26.13 .24	28.82 1.28	9.77 .16	44.50 .20	17.50 1.87	57.70 .19	55.32 .81	46.71 .91
27.2	25.90 - .23	30.08 + 1.23	9.60 - .17	44.30 - .20	15.64 - 1.85	57.51 - .19	56.13 + .80	45.79 - .93
Mean Solar Date.	$\phi$ Herculis.	$\sigma$ Cor. Bor. (mean.)	$\gamma$ Apodis.	$\eta$ Urs.Min.	$\eta$ Ophiuchi.	$\pi$ Herculis.	$\theta$ Ophiuchi.	$\delta$ Aræ.
	44° 45' <sub>h m</sub> 16 5	55° 50' <sub>h m</sub> 16 10	168° 38' <sub>h m</sub> 16 15	13° 58' <sub>h m</sub> 16 20	105° 35' <sub>h m</sub> 17 3	53° 3' <sub>h m</sub> 17 10	114° 53' <sub>h m</sub> 17 14	150° 35' <sub>h m</sub> 17 20
Apr. 9.6	<sup>s</sup> 3.60 + .25	<sup>s</sup> 15.79 + .23	<sup>s</sup> 24.83 + 1.03	<sup>s</sup> 62.51 + .63	<sup>s</sup> 34.12 + .27	<sup>s</sup> 56.31 + .29	<sup>s</sup> 45.10 + .30	<sup>s</sup> 26.32 + .53
19.6	3.83 .21	16.01 .21	25.80 .91	63.07 .49	34.38 .25	56.59 .27	45.39 .28	26.83 .49
29.6	4.01 .17	16.19 .16	26.65 .77	63.49 .35	34.62 .23	56.84 .23	45.65 .25	27.29 .45
May 9.6	4.16 .12	16.33 .13	27.33 .60	63.76 .20	34.83 .20	57.04 .19	45.89 .23	27.72 .40
19.5	4.25 .07	16.44 .09	27.86 .45	63.88 + .05	35.01 .17	57.22 .16	46.11 .20	28.09 .34
29.5	4.30 + .03	16.51 + .05	28.22 + .27	63.86 - .11	35.17 + .14	57.36 + .11	46.30 + .17	28.40 + .28
June 8.5	4.31 - .02	16.53 + .01	28.40 + .09	63.67 .26	35.29 .10	57.44 .07	46.44 .13	28.64 .21
18.5	4.26 .08	16.53 - .03	28.40 - .10	63.33 .41	35.37 .07	57.50 + .03	46.55 .09	28.81 .13
28.4	4.16 .12	16.48 .07	28.21 .28	62.85 .54	35.42 + .03	57.50 - .02	46.62 .06	28.90 + .06
July 8.4	4.02 .16	16.39 .11	27.85 .44	62.26 .66	35.42 - .01	57.46 .06	46.66 + .02	28.92 - .01
18.4	3.85 - .19	16.26 - .14	27.33 - .60	61.54 - .76	35.40 - .05	57.38 - .11	46.65 - .03	28.87 - .09
28.3	3.64 .22	16.11 .17	26.65 .73	60.75 .83	35.33 .09	57.25 .15	46.60 .08	28.73 .17
Aug. 7.3	3.41 .24	15.92 .20	25.87 .84	59.88 .90	35.23 .12	57.08 .19	46.49 .12	28.52 .24
17.3	3.16 .27	15.72 .22	24.96 .93	58.95 .94	35.10 .15	56.88 .21	46.36 .14	28.26 .30
27.3	2.87 .28	15.49 .22	24.02 .96	58.00 .96	34.94 .17	56.66 .23	46.21 .16	27.93 .34
Sept. 6.2	2.60 - .28	15.27 - .23	23.04 - .97	57.03 - .97	34.77 - .18	56.41 - .24	46.04 - .18	27.57 - .36
16.2	2.32 .27	15.05 .23	22.09 .92	56.07 .93	34.59 .18	56.17 .24	45.84 .19	27.21 .37
26.2	2.06 .24	14.82 .23	21.20 .85	55.19 .86	34.41 .17	55.92 .24	45.66 .18	26.84 .36
Oct. 6.2	1.84 - .20	14.58 - .23	20.40 - .75	54.36 - .78	34.25 - .15	55.69 - .23	45.49 - .16	26.50 - .33



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Mean Solar Date.	Groombr. 944, S. P.	$\iota$ Herculis.	$\theta$ Herculis.	$\sigma$ Herculis.	$\lambda$ Sagittarii.	$\chi$ Draconis.	$\zeta$ Pavonis.	$\gamma$ Lyrae.
	355° 8' h m 17 23	43° 56' h m 17 36	52° 44' h m 17 52	61° 15' h m 18 2	115° 29' h m 18 20	17° 19' h m 18 23	161° 32' h m 18 29	57° 28' h m 18 54
May 19.6	59.29 - .46	9.39 + .18	13.26 + .20	57.03 + .20	41.42 + .25	15.01 + .43	15.70 + .64	32.32 + .26
29.6	59.06 .00	9.55 .14	13.44 .16	57.22 .18	41.66 .23	15.38 .30	16.30 .56	32.56 .23
June 8.5	59.29 + .46	9.66 .09	13.58 .12	57.38 .14	41.88 .20	15.62 .18	16.82 .46	32.77 .19
18.5	60.00 .92	9.73 + .04	13.67 .07	57.49 .09	42.06 .16	15.74 + .06	17.22 .35	32.94 .14
28.5	61.13 1.34	9.74 - .01	13.71 + .03	57.55 + .05	42.19 .11	15.75 - .06	17.52 .24	33.04 .09
July 8.5	62.68 +1.74	9.70 - .07	13.72 - .02	57.58 .00	42.28 + .07	15.61 - .20	17.69 + .11	33.12 + .06
18.4	64.59 2.06	9.60 .12	13.67 .07	57.57 - .04	42.33 + .03	15.35 .31	17.73 - .02	33.16 + .01
28.4	66.79 2.36	9.46 .17	13.58 .12	57.51 .09	42.33 - .02	15.00 .42	17.64 .14	33.14 - .04
Aug. 7.4	69.31 2.62	9.27 .21	13.44 .16	57.40 .13	42.28 .07	14.51 .53	17.45 .26	33.08 .09
17.4	72.03 2.80	9.04 .25	13.26 .19	57.26 .16	42.20 .11	13.95 .62	17.13 .37	32.96 .14
27.3	74.91 +2.95	8.78 - .27	13.06 - .22	57.08 - .18	42.06 - .15	13.30 - .69	16.71 - .47	32.81 - .17
Sept. 6.3	77.92 3.04	8.50 .30	12.83 .24	56.89 .20	41.90 .17	12.58 .75	16.20 .54	32.62 .20
16.3	80.98 3.06	8.19 .31	12.58 .25	56.68 .22	41.72 .18	11.81 .78	15.63 .58	32.41 .22
26.2	84.04 3.03	7.89 .30	12.32 .25	56.45 .21	41.53 .19	11.03 .79	15.04 .60	32.19 .23
Oct. 6.2	87.03 2.94	7.60 .28	12.07 .24	56.23 .21	41.34 .19	10.23 .80	14.43 .61	31.96 .23
16.2	89.92 +2.83	7.33 - .26	11.83 - .23	56.02 - .20	41.16 - .18	9.44 - .78	13.83 - .59	31.73 - .22
Mean Solar Date.	$\iota$ Lyrae.	25 Camelop. S. P.	$\theta$ Lyrae.	$\beta$ Cygni.	$\beta$ Sagittæ.	$\delta$ Cygni.	Groombr. 1374, S. P.	$\epsilon$ Pavonis.
	54° 5' h m 19 3	352° 38' h m 19 5	52° 5' h m 19 12	62° 17' h m 19 25	72° 48' h m 19 35	45° 9' h m 19 41	344° 14' h m 19 45	163° 13' h m 19 46
May 29.6	6.31 + .24	58.58 - .68	17.15 + .24	58.30 + .24	45.28 + .25	18.14 + .29	57.06 - .36	56.90 + .76
June 8.6	6.53 .20	58.05 .38	17.38 .21	58.53 .22	45.52 .23	18.41 .25	56.75 .26	57.62 .68
18.6	6.71 .16	57.82 - .09	17.57 .17	58.74 .19	45.73 .20	18.64 .21	56.55 - .14	58.26 .58
28.6	6.84 .11	57.87 + .19	17.71 .12	58.90 .13	45.91 .16	18.82 .15	56.48 .00	58.77 .47
July 8.5	6.92 .06	58.20 .48	17.80 .07	59.00 .09	46.04 .11	18.94 .10	56.56 + .13	59.19 .35
18.5	6.95 + .01	58.82 + .76	17.84 + .02	59.08 + .05	46.12 + .07	19.02 + .04	56.74 + .25	59.47 + .21
28.5	6.94 - .04	59.71 1.00	17.84 - .03	59.10 .00	46.17 + .03	19.02 - .02	57.05 .38	59.60 + .07
Aug. 7.4	6.88 .09	60.81 1.22	17.78 .09	59.08 - .05	46.17 - .02	18.98 .08	57.50 .50	59.60 - .08
17.4	6.76 .14	62.14 1.43	17.66 .14	59.01 .10	46.12 .07	18.87 .13	58.04 .59	59.44 .22
27.4	6.61 .17	63.67 1.63	17.51 .17	58.89 .14	46.03 .11	18.73 .17	58.67 .70	59.16 .34
Sept. 6.4	6.42 - .20	65.39 +1.77	17.32 - .21	58.73 - .17	45.91 - .14	18.53 - .21	59.43 + .78	58.76 - .46
16.3	6.20 .23	67.21 1.88	17.10 .23	58.56 .19	45.76 .16	18.31 .24	60.23 .85	58.24 .56
26.3	5.96 .24	69.15 1.97	16.86 .25	58.36 .20	45.59 .18	18.06 .26	61.12 .91	57.65 .62
Oct. 6.3	5.72 .24	71.15 2.03	16.61 .25	58.15 .21	45.40 .19	17.78 .28	62.05 .95	57.01 .66
16.3	5.48 .24	73.20 2.02	16.36 .24	57.94 .21	45.21 .18	17.50 .28	63.02 .97	56.33 .68
26.2	5.24 - .23	75.19 +1.99	16.12 - .23	57.74 - .20	45.03 - .17	17.22 - .28	63.98 + .97	55.66 - .66
Nov. 5.2	5.04 - .20	77.17 +1.96	15.90 - .21	57.55 - .19	44.87 - .15	16.94 - .27	64.96 + .96	55.01 - .64

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Mean Solar Date.	$\gamma$ Sagittæ.	$\epsilon$ Sagittarii.	$\theta$ Aquilæ.	$\alpha^1$ Cygni.	$\alpha$ Delphini.	$\beta$ Pavonis.	$\psi$ Capricor.	$\epsilon$ Cygni.
	$70^\circ 50'$	$118^\circ 2'$	$91^\circ 10'$	$43^\circ 37'$	$74^\circ 30'$	$156^\circ 38'$	$115^\circ 42'$	$56^\circ 28'$
	$h \quad m$ 19 53	$h \quad m$ 19 55	$h \quad m$ 20 5	$h \quad m$ 20 9	$h \quad m$ 20 34	$h \quad m$ 20 34	$h \quad m$ 20 39	$h \quad m$ 20 41
June 18.6	$31.32 + .21$	$24.54 + .26$	$13.46 + .21$	$56.31 + .23$	$9.98 + .29$	$19.91 + .52$	$6.74 + .28$	$27.00 + .26$
28.6	$31.51 .17$	$24.78 .22$	$13.66 .19$	$56.52 .19$	$10.20 .21$	$20.39 .45$	$7.00 .24$	$27.24 .22$
July 8.5	$31.66 .13$	$24.97 .17$	$13.84 .16$	$56.69 .14$	$10.39 .17$	$20.80 .37$	$7.22 .21$	$27.44 .18$
18.5	$31.76 .08$	$25.11 .12$	$13.97 .11$	$56.80 .08$	$10.53 .12$	$21.12 .27$	$7.41 .17$	$27.60 .13$
28.5	$31.82 + .04$	$25.20 .07$	$14.05 .06$	$56.84 + .02$	$10.62 .08$	$21.34 .17$	$7.55 .11$	$27.69 .07$
Aug. 7.5	$31.84 - .01$	$25.24 + .01$	$14.08 + .01$	$56.84 - .04$	$10.68 + .04$	$21.45 + .07$	$7.62 + .05$	$27.74 + .03$
17.4	$31.80 .06$	$25.23 - .04$	$14.08 - .03$	$56.77 .10$	$10.69 - .01$	$21.46 - .04$	$7.65 + .01$	$27.74 - .02$
27.4	$31.73 .10$	$25.17 .08$	$14.03 .07$	$56.65 .15$	$10.66 .05$	$21.36 .14$	$7.64 - .04$	$27.70 .07$
Sept. 6.4	$31.61 .13$	$25.07 .12$	$13.94 .10$	$56.48 .19$	$10.59 .09$	$21.18 .24$	$7.58 .08$	$27.60 .12$
16.4	$31.48 .16$	$24.93 .15$	$13.83 .13$	$56.27 .23$	$10.48 .13$	$20.89 .33$	$7.48 .12$	$27.47 .15$
26.3	$31.30 - .18$	$24.77 - .17$	$13.69 - .15$	$56.02 - .26$	$10.34 - .15$	$20.53 - .39$	$7.35 - .15$	$27.30 - .18$
Oct. 6.3	$31.12 .18$	$24.60 .19$	$13.53 .16$	$55.75 .27$	$10.19 .17$	$20.11 .44$	$7.19 .17$	$27.12 .20$
16.3	$30.94 .19$	$24.40 .19$	$13.37 .16$	$55.48 .28$	$10.01 .17$	$19.66 .46$	$7.01 .18$	$26.91 .21$
26.2	$30.75 .18$	$24.22 .18$	$13.21 .16$	$55.20 .28$	$9.84 .17$	$19.19 .47$	$6.84 .18$	$26.71 .21$
Nov. 5.2	$30.58 .17$	$24.05 .16$	$13.04 .15$	$54.92 .27$	$9.68 .16$	$18.72 .46$	$6.66 .17$	$26.50 .20$
15.2	$30.42 - .13$	$23.90 - .14$	$12.91 - .11$	$54.66 - .25$	$9.53 - .15$	$18.27 - .43$	$6.51 - .15$	$26.30 - .19$
25.2	$30.32 - .08$	$23.77 - .11$	$12.82 - .07$	$54.42 - .23$	$9.39 - .13$	$17.87 - .38$	$6.36 - .14$	$26.12 - .17$
Mean Solar Date.	$\tau$ Cygni.	$\zeta$ Capricor.	$74$ Cygni.	$\lambda^1$ Octantis.	$\zeta$ Chamæ- leontis, S.P.	$\pi^2$ Cygni.	$16$ Pegasi.	$\pi$ Pegasi.
	$52^\circ 27'$	$112^\circ 55'$	$50^\circ 7'$	$173^\circ 16'$	$189^\circ 35'$	$41^\circ 14'$	$64^\circ 38'$	$57^\circ 24'$
	$h \quad m$ 21 10	$h \quad m$ 21 19	$h \quad m$ 21 32	$h \quad m$ 21 32	$h \quad m$ 21 37	$h \quad m$ 21 42	$h \quad m$ 21 47	$h \quad m$ 22 4
July 8.6	$6.11 + .22$	$56.37 + .24$	$14.40 + .23$	$46.25 + 1.37$	$13.41 - .78$	$27.51 + .27$	$42.43 + .24$	$45.73 + .26$
18.6	$6.30 .16$	$56.59 .20$	$14.61 .19$	$47.48 1.09$	$12.71 .62$	$27.76 .21$	$42.65 .20$	$45.97 .22$
28.5	$6.43 .11$	$56.77 .15$	$14.77 .14$	$48.43 .80$	$12.17 .43$	$27.94 .15$	$42.82 .15$	$46.16 .17$
Aug. 7.5	$6.51 .06$	$56.89 .10$	$14.89 .09$	$49.07 .46$	$11.86 - .21$	$28.06 .10$	$42.95 .11$	$46.31 .12$
17.5	$6.54 + .01$	$56.96 + .05$	$14.94 + .03$	$49.35 + .12$	$11.75 .00$	$28.13 + .04$	$43.03 .06$	$46.40 .08$
27.5	$6.53 - .04$	$56.98 .00$	$14.95 - .02$	$49.31 - .20$	$11.86 + .25$	$28.13 - .02$	$43.07 + .01$	$46.46 + .04$
Sept. 6.4	$6.46 .10$	$56.97 - .04$	$14.90 .07$	$48.94 .55$	$12.24 .48$	$28.10 .07$	$43.06 - .03$	$46.47 - .01$
16.4	$6.34 .14$	$56.92 .08$	$14.81 .11$	$48.22 .87$	$12.82 .68$	$27.99 .14$	$43.01 .07$	$46.44 .06$
26.4	$6.19 .17$	$56.80 .12$	$14.68 .15$	$47.21 1.15$	$13.60 .89$	$27.83 .18$	$42.93 .11$	$46.36 .10$
Oct. 6.3	$6.01 .19$	$56.68 .14$	$14.51 .18$	$45.92 1.40$	$14.60 1.08$	$27.63 .21$	$42.80 .13$	$46.24 .13$
16.3	$5.81 - .20$	$56.53 - .16$	$14.32 - .20$	$44.42 - 1.57$	$15.76 + 1.23$	$27.42 - .23$	$42.67 - .15$	$46.10 - .15$
26.3	$5.60 .21$	$56.37 .16$	$14.11 .21$	$42.78 1.70$	$17.05 1.33$	$27.18 .25$	$42.51 .16$	$45.94 .17$
Nov. 5.3	$5.39 .21$	$56.21 .16$	$13.90 .21$	$41.03 1.76$	$18.42 1.39$	$26.92 .26$	$42.35 .16$	$45.77 .18$
15.2	$5.18 .20$	$56.05 .15$	$13.68 .21$	$39.27 1.75$	$19.83 1.40$	$26.66 .26$	$42.18 .16$	$45.59 .18$
25.2	$4.98 .19$	$55.90 .14$	$13.48 .20$	$37.55 1.67$	$21.22 1.37$	$26.40 .26$	$42.03 .15$	$45.41 .17$
Dec. 5.2	$4.80 - .17$	$55.78 - .11$	$13.28 - .19$	$35.95 - 1.53$	$22.54 + 1.29$	$26.15 - .25$	$41.89 - .13$	$45.25 - .15$



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Mean Solar Date.	$\nu$ Octantis.		$\gamma$ Aquarii.		$\sigma$ Aquarii.		$\alpha$ Lacertæ.		10 Lacertæ.		$\beta$ Octantis.		$\lambda$ Pegasi.		Groombr. 1706, S. P.	
	176° 34'	h m	91° 59'	h m	101° 17'	h m	40° 19'	h m	51° 34'	h m	172° 0'	h m	67° 3'	h m	348° 24'	h m
	22 8		22 15		22 24		22 26		22 33		22 33		22 40		22 50	
July 8.6	49.49 +.20	s	34.15 +.25	s	24.48 +.27	s	27.06 +.31	s	58.87 +.29	s	58.23 +1.34	s	51.41 +.27	s	23.42 - .70	s
18.6	52.14 2.40		34.38 .22		24.73 .23		27.35 .28		59.14 .25		59.55 1.20		51.67 .25		22.79 .56	
28.6	54.30 1.88		34.58 .18		24.95 .20		27.61 .23		59.37 .21		60.67 1.00		51.90 .21		22.31 .41	
Aug. 7.5	55.91 1.32		34.73 .14		25.12 .15		27.81 .16		59.56 .17		61.55 .76		52.08 .16		21.96 .30	
17.5	56.94 .71		34.85 .10		25.25 .10		27.93 .10		59.70 .11		62.18 .49		52.22 .12		21.72 - .16	
27.5	57.33 +.06		34.93 +.05		25.32 +.06		28.01 +.05		59.78 +.06		62.53 +.22		52.31 +.08		21.65 .00	
Sept. 6.5	57.05 - .62		34.95 +.01		25.37 +.03		28.03 - .01		59.82 +.01		62.61 - .07		52.37 +.04		21.72 + .16	
16.4	56.09 1.25		34.95 - .03		25.38 - .02		27.99 .07		59.81 - .03		62.38 .37		52.38 - .01		21.97 .32	
26.4	54.55 1.84		34.91 .06		25.34 .05		27.90 .11		59.76 .08		61.87 .63		52.35 .05		22.36 .47	
Oct. 6.4	52.42 2.40		34.84 .09		25.27 .08		27.77 .16		59.66 .12		61.12 .88		52.29 .08		22.91 - .62	
16.4	49.75 -2.85		34.74 - .11		25.18 - .11		27.59 - .19		59.53 - .14		60.11 -1.11		52.20 - .11		23.59 + .77	
26.3	46.72 3.20		34.62 .13		25.05 .12		27.39 .22		59.39 .16		58.91 1.28		52.08 .13		24.44 .90	
Nov. 5.3	43.36 3.44		34.49 .13		24.93 .13		27.16 .24		59.22 .18		57.56 1.40		51.95 .13		25.38 1.00	
15.3	39.85 3.53		34.36 .13		24.79 .13		26.92 .25		59.03 .19		56.12 1.47		51.82 .14		26.44 1.11	
25.2	36.31 3.51		34.23 .13		24.66 .13		26.67 .25		58.85 .19		54.63 1.48		51.67 .14		27.60 1.18	
Dec. 5.2	32.85 -3.33		34.11 - .11		24.53 - .12		26.42 - .24		58.66 - .19		53.16 -1.45		51.53 - .14		28.79 +1.21	
15.2	29.65 -3.05		34.01 - .09		24.43 - .10		26.19 - .22		58.48 - .18		51.75 -1.38		51.39 - .13		30.01 +1.23	
Mean Solar Date.	$\sigma$ Androm.		$\phi$ Aquarii.		$\tau$ Pegasi.		$\lambda$ Androm.		$\epsilon^1$ Aquarii.		$\delta$ Sculptoris.		$\gamma^1$ Octantis.		33 Piscium.	
	48° 18'	h m	96° 41'	h m	66° 54'	h m	44° 11'	h m	108° 56'	h m	118° 47'	h m	172° 40'	h m	96° 22'	h m
	22 56		23 8		23 14		23 31		23 38		23 42		23 45		23 59	
July 28.6	30.89 +.24	s	13.43 +.23	s	48.73 +.22	s	48.70 +.29	s	5.48 +.26	s	47.34 +.27	s	12.54 +1.39	s	18.26 +.24	s
Aug. 7.6	31.11 .20		13.64 .19		48.94 .20		48.97 .25		5.72 .22		47.59 .23		13.83 1.19		18.49 .23	
17.6	31.29 .15		13.81 .15		49.12 .16		49.20 .20		5.92 .18		47.80 .20		14.92 .97		18.71 .20	
27.5	31.40 .10		13.93 .10		49.25 .11		49.37 .14		6.08 .14		47.98 .16		15.76 .70		18.87 .15	
Sept. 6.5	31.48 +.05		14.01 .06		49.33 .07		49.48 .10		6.19 .10		48.11 .11		16.31 .40		19.01 .11	
16.5	31.49 - .01		14.05 +.03		49.38 +.04		49.56 +.05		6.27 +.05		48.19 +.06		16.55 +.09		19.10 +.08	
26.4	31.47 .05		14.06 - .01		49.40 .00		49.58 .00		6.30 +.02		48.22 +.02		16.49 - .22		19.17 +.04	
Oct. 6.4	31.41 .09		14.04 .04		49.37 - .04		49.56 - .04		6.30 - .02		48.23 - .02		16.10 .53		19.18 .00	
16.4	31.29 .13		13.98 .07		49.32 .07		49.50 .09		6.26 .05		48.18 .06		15.43 .82		19.17 - .03	
26.4	31.16 .15		13.90 .09		49.23 .10		49.39 .13		6.20 .08		48.11 .09		14.47 1.08		19.14 .05	
Nov. 5.3	31.00 - .17		13.80 - .12		49.12 - .12		49.25 - .15		6.11 - .11		48.00 - .12		13.27 -1.31		19.07 - .07	
15.3	30.82 .19		13.67 .12		49.00 .12		49.09 .17		5.99 .12		47.88 .13		11.86 1.48		18.99 .09	
25.3	30.63 .19		13.56 .12		48.88 .13		48.91 .19		5.87 .13		47.74 .15		10.32 1.58		18.89 .11	
Dec. 5.3	30.44 .19		13.43 .12		48.74 .14		48.71 .20		5.74 .13		47.59 .15		8.69 1.64		18.78 .11	
15.2	30.25 .19		13.33 .11		48.60 .13		48.51 .20		5.61 .13		47.45 .15		7.04 1.65		18.67 .11	
25.2	30.07 - .19		13.22 - .10		48.47 - .13		48.30 - .21		5.49 - .12		47.30 - .14		5.40 -1.60		18.55 - .11	
35.2	29.88 - .18		13.14 - .07		48.35 - .11		48.09 - .21		5.38 - .10		47.17 - .12		3.86 -1.49		18.45 - .10	



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Mean Solar Date.	$\beta$ Cassiop.	$\gamma$ Androm.	$\sigma$ Androm.	$\iota$ Ceti.	6 Urs. Min., S. P.	44 Piscium.	$\pi$ Androm.	$\phi$ Cassiop.
	$31^{\circ} 30'$ h m 0 2	$44^{\circ} 35'$ h m 0 4	$53^{\circ} 52'$ h m 0 12	$99^{\circ} 29'$ h m 0 13	$358^{\circ} 21'$ h m 0 13	$88^{\circ} 43'$ h m 0 19	$56^{\circ} 56'$ h m 0 30	$42^{\circ} 22'$ h m 0 38
(Dec. 30.3)	<sup>s</sup> 54.30 - .33	<sup>s</sup> 12.51 - .20	<sup>s</sup> 10.99 - .16	<sup>s</sup> 25.64 - .11	<sup>s</sup> 74.30 +7.45	<sup>s</sup> 22.16 - .13	<sup>s</sup> 36.04 - .18	<sup>s</sup> 10.62 - .23
Jan. 9.2	53.98 .31	12.31 .20	10.83 .16	25.53 .11	81.70 7.30	22.04 .11	35.86 .17	10.39 .23
19.2	53.69 .28	12.12 .19	10.67 .17	25.43 .10	88.87 6.94	21.95 .10	35.71 .15	10.16 .22
29.2	53.42 - .26	11.94 - .17	10.52 - .16	25.33 - .09	95.53 +6.36	21.85 - .09	35.56 - .13	9.95 - .20
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Aug. 26.6	58.90 + .24	16.35 + .20	14.51 + .15	28.76 + .15	31.33 -3.36	25.24 + .15	39.31 + .21	14.23 + .24
Sept. 5.6	59.11 .18	16.52 .15	14.67 .14	28.90 .13	28.44 2.40	25.38 .14	39.50 .16	14.45 .20
15.5	59.25 .11	16.64 .10	14.80 .10	29.02 .10	26.54 1.38	25.51 .10	39.64 .12	14.63 .16
25.5	59.33 + .05	16.72 + .05	14.87 .06	29.09 .06	25.68 - .31	25.58 .06	39.74 .08	14.76 .11
Oct. 5.5	59.36 .00	16.74 .00	14.92 + .02	29.13 + .02	25.93 + .81	25.63 + .03	39.80 .04	14.84 .06
15.4	59.32 - .06	16.72 - .04	14.92 - .02	29.13 - .01	27.30 +1.90	25.64 .00	39.83 + .01	14.88 + .02
25.4	59.23 .12	16.67 .07	14.89 .05	29.10 .04	29.72 2.99	25.63 - .02	39.82 - .02	14.87 - .03
Nov. 4.4	59.08 .17	16.58 .11	14.83 .08	29.06 .06	33.28 4.06	25.50 .06	39.78 .06	14.82 .08
14.4	58.89 .22	16.45 .14	14.74 .11	28.98 .09	37.83 5.00	25.52 .08	39.71 .08	14.72 .11
24.3	58.65 .24	16.29 .16	14.61 .12	28.88 .10	43.27 5.86	25.44 .09	39.61 .10	14.60 .14
Dec. 4.3	58.40 - .28	16.12 - .18	14.47 - .14	28.77 - .11	49.53 +6.53	25.34 - .10	39.50 - .12	14.44 - .17
14.3	58.09 .31	15.93 .19	14.33 .16	28.67 .11	56.39 7.09	25.23 .11	39.37 .14	14.26 .19
24.3	57.78 .31	15.73 .20	14.16 .17	28.54 .12	63.67 7.38	25.12 .12	39.22 .16	14.06 .20
34.2	57.47 - .31	15.52 - .20	13.99 - .16	28.42 - .11	71.11 +7.44	25.00 - .12	39.06 - .16	13.85 - .21
Mean Solar Date.	$\delta$ Piscium.	$\gamma$ Cassiop.	$\mu$ Androm.	43 Cephei.	$f$ Piscium.	$\kappa$ Tucanæ.	$\kappa$ Octantis, S. P.	$v$ Androm.
	$83^{\circ} 3'$ h m 0 42	$29^{\circ} 55'$ h m 0 49	$52^{\circ} 8'$ h m 0 50	$4^{\circ} 23'$ h m 0 52	$87^{\circ} 0'$ h m 1 11	$159^{\circ} 30'$ h m 1 11	$184^{\circ} 49'$ h m 1 22	$49^{\circ} 11'$ h m 1 29
(Dec. 30.3)	<sup>s</sup> 34.72 - .11	<sup>s</sup> 37.48 - .33	<sup>s</sup> 13.79 - .17	<sup>s</sup> 57.95 -2.74	<sup>s</sup> 44.00 - .12	<sup>s</sup> 46.54 - .58	<sup>s</sup> 8.03 +2.88	<sup>s</sup> 54.30 - .16
Jan. 9.2	34.61 .12	37.15 .33	13.61 .17	55.22 2.72	43.88 .12	45.97 .57	10.96 2.93	54.13 .18
19.2	34.48 .12	36.82 .32	13.45 .17	52.51 2.69	43.75 .12	45.41 .55	13.89 2.87	53.94 .20
29.2	34.37 - .11	36.50 - .31	13.27 - .17	49.85 -2.64	43.63 - .12	44.88 - .52	16.69 +2.71	53.72 - .23
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Sept. 5.6	37.80 + .16	41.91 + .26	17.23 + .20	76.21 +1.51	46.79 + .21	49.84 + .38	5.91 -1.48	57.45 + .26
15.5	37.94 .12	42.14 .21	17.40 .15	77.60 1.19	46.97 .15	50.17 .39	4.60 1.09	57.69 .21
25.5	38.04 .08	42.33 .15	17.53 .11	78.58 .78	47.09 .11	50.41 .20	3.74 .63	57.86 .16
Oct. 5.5	38.11 .06	42.45 .09	17.62 .07	79.15 + .36	47.19 .08	50.56 .10	3.34 - .16	58.01 .13
15.5	38.15 + .02	42.51 + .03	17.67 + .04	79.29 - .08	47.26 .05	50.62 + .02	3.42 + .33	58.12 .09
25.4	38.16 - .01	42.51 - .04	17.69 .00	78.99 - .49	47.29 + .02	50.60 - .07	4.01 + .83	58.19 + .06
Nov. 4.4	38.13 .03	42.44 .10	17.67 - .04	78.31 .96	47.29 - .01	50.47 .17	5.07 1.31	58.23 + .01
14.4	38.10 .05	42.32 .15	17.61 .07	77.06 1.40	47.26 .04	50.25 .27	6.64 1.78	58.21 - .03
24.3	38.03 .08	42.14 .20	17.53 .09	75.50 1.74	47.21 .06	49.93 .36	8.61 2.16	58.17 .06
Dec. 4.3	37.95 .09	41.92 .24	17.42 .12	73.57 2.10	47.14 .07	49.53 .43	10.96 2.49	58.08 .09
14.3	37.85 - .10	41.66 - .28	17.28 - .14	71.30 -2.39	47.06 - .09	49.07 - .50	13.58 +2.71	57.98 - .12
24.3	37.74 .11	41.36 .31	17.13 .15	68.79 2.60	46.96 .10	48.53 .56	16.37 2.84	57.83 - .15
34.2	37.62 - .12	41.04 - .33	16.97 - .16	66.11 -2.74	46.85 - .11	47.96 - .58	19.26 +2.91	57.67 - .17



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Mean Solar Date.	$\pi$ Piscium.	$\nu$ Piscium.	$\zeta$ Ceti.	$\gamma$ Androm.	$\beta$ Trianguli.	4 Urs. Min. S. P.	$\gamma$ Trianguli.	67 Ceti.
	$78^{\circ} 28'$ h m 1 30	$85^{\circ} 7'$ h m 1 35	$100^{\circ} 55'$ h m 1 45	$48^{\circ} 14'$ h m 1 56	$55^{\circ} 34'$ h m 2 2	$348^{\circ} 6'$ h m 2 9	$56^{\circ} 42'$ h m 2 10	$96^{\circ} 58'$ h m 2 11
(Dec. 30.3)	$52.07 - .12$	$18.87 - .12$	$39.49 - .13$	$41.63 - .15$	$33.44 - .13$	$15.83 + 1.01$	$20.09 - .12$	$7.37 - .10$
Jan. 9.3	$51.94 .13$	$18.75 .12$	$39.36 .13$	$41.47 .18$	$33.30 .15$	$16.87 1.06$	$19.96 .15$	$7.26 .12$
19.2	$51.82 .14$	$18.62 .13$	$39.23 .14$	$41.28 .20$	$33.14 .18$	$17.96 1.11$	$19.79 .17$	$7.13 .13$
29.2	$51.68 .13$	$18.48 .13$	$39.08 .15$	$41.08 .20$	$32.95 .19$	$19.08 1.10$	$19.62 .17$	$6.99 .14$
Feb. 8.2	$51.56 .13$	$18.35 .12$	$38.93 .15$	$40.87 .19$	$32.78 .17$	$20.16 1.07$	$19.45 .18$	$6.84 .14$
18.2	$51.42 - .12$	$18.24 - .10$	$38.79 - .14$	$40.69 - .17$	$32.61 - .16$	$21.21 + 1.03$	$19.26 - .19$	$6.70 - .14$
Sept. 25.6	$55.10 + .14$	$21.81 + .14$	$42.23 + .15$	$45.04 + .20$	$36.63 + .18$	$12.71 - .58$	$23.18 + .21$	$9.93 + .18$
Oct. 5.6	$55.23 .10$	$21.93 .11$	$42.36 .11$	$45.22 .16$	$36.80 .16$	$12.19 .45$	$23.37 .17$	$10.09 .14$
15.5	$55.31 .07$	$22.02 .08$	$42.45 .09$	$45.37 .13$	$36.95 .13$	$11.82 .28$	$23.51 .13$	$10.20 .10$
25.5	$55.37 + .04$	$22.08 + .05$	$42.53 + .06$	$45.48 + .09$	$37.06 + .09$	$11.63 - .11$	$23.63 + .10$	$10.29 + .08$
Nov. 4.5	$55.39 + .02$	$22.11 + .02$	$42.56 + .02$	$45.54 .04$	$37.13 .06$	$11.60 + .07$	$23.71 .06$	$10.36 .05$
14.4	$55.40 - .01$	$22.12 - .01$	$42.56 - .01$	$45.57 + .01$	$37.17 + .02$	$11.77 .27$	$23.75 + .02$	$10.38 + .02$
24.4	$55.36 .04$	$22.09 .04$	$42.55 .04$	$45.56 - .03$	$37.18 - .02$	$12.14 .45$	$23.76 - .01$	$10.39 - .01$
Dec. 4.4	$55.32 .06$	$22.04 .06$	$42.49 .06$	$45.51 .07$	$37.12 .05$	$12.67 .61$	$23.73 .04$	$10.36 .04$
14.4	$55.24 - .08$	$21.97 - .08$	$42.42 - .08$	$45.42 - .10$	$37.06 - .08$	$13.37 + .78$	$23.67 - .08$	$10.31 - .07$
24.3	$55.15 .10$	$21.88 .10$	$42.33 .10$	$45.30 .13$	$36.96 .11$	$14.22 .92$	$23.58 .11$	$10.22 .09$
34.3	$55.04 - .11$	$21.77 - .12$	$42.21 - .12$	$45.15 - .16$	$36.83 - .14$	$15.21 + 1.06$	$23.46 - .13$	$10.12 - .10$
Mean Solar Date.	$\delta$ Hydri.	$\delta$ Ceti.	$\mu$ Hydri.	$\theta$ Persei.	$\sigma$ Arietis.	47 Cephei.	$\epsilon$ Arietis.	$\beta$ Persei, (Algol.)
	$159^{\circ} 12'$ h m 2 19	$90^{\circ} 11'$ h m 2 33	$169^{\circ} 37'$ h m 2 34	$41^{\circ} 16'$ h m 2 36	$75^{\circ} 24'$ h m 2 44	$11^{\circ} 3'$ h m 2 50	$69^{\circ} 8'$ h m 2 52	$49^{\circ} 30'$ h m 3 0
(Dec. 30.3)	$40.61 - .53$	$27.77 - .09$	$14.17 - 1.16$	$11.33 - .15$	$60.62 - .08$	$34.74 - .71$	$29.98 - .08$	$32.14 - .11$
Jan. 9.3	$40.06 .57$	$27.67 .11$	$12.98 1.21$	$11.16 .19$	$60.53 .10$	$33.97 .83$	$29.89 .10$	$32.02 .14$
19.3	$39.47 .59$	$27.54 .13$	$11.74 1.25$	$10.95 .22$	$60.41 .12$	$33.08 .94$	$29.77 .14$	$31.87 .18$
29.3	$38.88 .58$	$27.41 .14$	$10.47 1.26$	$10.72 .24$	$60.28 .14$	$32.09 1.01$	$29.61 .15$	$31.67 .20$
Feb. 8.2	$38.30 .53$	$27.26 .15$	$9.22 1.24$	$10.48 .25$	$60.13 .15$	$31.06 1.04$	$29.47 .15$	$31.47 .21$
18.2	$37.83 - .42$	$27.11 - .15$	$7.99 - 1.22$	$10.23 - .25$	$59.98 - .15$	$30.02 - 1.04$	$29.31 - .15$	$31.26 - .21$
Sept. 25.6	$42.50 + .35$	$30.21 + .19$	$14.84 + .67$	$14.66 + .29$	$63.14 + .21$	$41.35 + .94$	$32.54 + .22$	$35.01 + .26$
Oct. 5.6	$42.80 .25$	$30.39 .16$	$15.44 .51$	$14.93 .24$	$63.34 .18$	$42.22 .80$	$32.75 .19$	$35.26 .24$
15.5	$43.01 .15$	$30.54 .12$	$15.86 .31$	$15.15 .20$	$63.51 .16$	$42.94 .65$	$32.92 .16$	$35.49 .21$
25.5	$43.10 + .04$	$30.64 + .09$	$16.05 + .08$	$15.33 + .16$	$63.65 + .13$	$43.52 + .50$	$33.07 + .14$	$35.67 + .17$
Nov. 4.5	$43.09 - .07$	$30.72 .07$	$16.01 - .15$	$15.46 .10$	$63.76 .09$	$43.94 .31$	$33.19 .10$	$35.82 .13$
14.5	$42.97 .18$	$30.78 .04$	$15.74 .37$	$15.54 .06$	$63.83 .06$	$44.14 + .13$	$33.27 .06$	$35.94 .09$
24.4	$42.73 .27$	$30.81 + .01$	$15.28 .57$	$15.58 + .01$	$63.87 + .02$	$44.20 - .05$	$33.32 .04$	$36.01 .05$
Dec. 4.4	$42.42 .36$	$30.80 - .02$	$14.59 .77$	$15.56 - .04$	$63.87 - .01$	$44.04 .26$	$33.35 + .01$	$36.04 + .01$
14.4	$42.01 - .44$	$30.76 - .05$	$13.75 - .92$	$15.51 - .08$	$63.86 - .03$	$43.69 - .45$	$33.34 - .02$	$36.02 - .04$
24.4	$41.54 .50$	$30.70 .08$	$12.74 1.06$	$15.39 .14$	$63.81 .07$	$43.13 .63$	$33.30 .06$	$35.96 .08$
34.3	$41.02 - .53$	$30.61 - .10$	$11.63 - 1.13$	$15.24 - .17$	$63.72 - .10$	$42.44 - .77$	$33.21 - .10$	$35.86 - .12$

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Mean Solar Date.	$\rho$ Octantis, S. P.	$\epsilon$ Hydri.	$f$ Tauri.	$\gamma$ Camelop.	$\gamma$ Hydri.	$\epsilon$ Persei.	$A^1$ Tauri.	$c$ Persei.
	185° 56' h m 3 16	167° 49' h m 3 18	77° 28' h m 3 24	19° 2' h m 3 37	164° 36' h m 3 49	50° 20' h m 3 49	68° 15' h m 3 57	42° 36' h m 4 0
(Dec. 30.4)	14.68 +2.22	58.30 - .88	23.59 - .05	60.76 - .27	7.84 - .64	58.99 - .06	45.57 - .03	9.02 - .05
Jan. 9.3	16.95 2.32	57.37 .98	23.52 .09	60.44 .37	7.17 .70	58.91 .10	45.52 .07	8.94 .11
19.3	19.33 2.44	56.35 1.05	23.41 .12	60.03 .45	6.43 .78	58.79 .14	45.43 .11	8.79 .17
29.3	21.84 2.51	55.27 1.10	23.28 .14	59.53 .52	5.60 .85	58.62 .18	45.30 .14	8.60 .21
Feb. 8.2	24.35 2.51	54.16 1.12	23.14 .16	58.99 .56	4.73 .89	58.43 .20	45.15 .16	8.37 .24
18.2	26.86 +2.46	53.03 -1.10	22.97 - .17	58.41 - .58	3.82 - .91	58.22 - .22	44.98 - .17	8.13 - .25
28.2	29.27 +2.35	51.97 -1.01	22.81 - .16	57.82 - .59	2.91 - .91	58.00 - .23	44.80 - .18	7.88 - .26
Oct. 5.6	22.87 -1.05	57.67 + .63	26.00 + .21	65.20 + .62	6.48 + .60	61.67 + .31	47.87 + .24	11.82 + .32
15.6	21.95 .74	58.21 .45	26.20 .18	65.78 .54	7.02 .48	61.96 .27	48.11 .23	12.13 .31
25.5	21.40 - .35	58.57 + .26	26.37 + .16	66.27 + .45	7.43 + .34	62.20 + .23	48.34 + .20	12.43 + .28
Nov. 4.5	21.26 + .08	58.73 + .07	26.51 .13	66.68 .36	7.69 .20	62.41 .20	48.50 .16	12.68 .23
14.5	21.57 .51	58.70 - .12	26.63 .10	66.98 .25	7.82 + .06	62.59 .16	48.66 .14	12.88 .18
24.5	22.28 .91	58.50 .30	26.71 .06	67.19 .14	7.81 - .08	62.73 .12	48.79 .11	13.05 .14
Dec. 4.4	23.40 1.32	58.09 .50	26.75 + .03	67.27 + .02	7.65 .24	62.82 .07	48.89 .07	13.16 .09
14.4	24.92 +1.68	57.51 - .65	26.77 .00	67.24 - .09	7.34 - .39	62.87 + .02	48.93 + .02	13.22 + .04
24.4	26.74 1.95	56.79 .79	26.75 - .04	67.09 .21	6.87 .52	62.86 - .02	48.94 - .01	13.23 - .02
34.4	28.82 +2.18	55.94 - .91	26.69 - .08	66.82 - .33	6.30 - .60	62.82 - .05	48.92 - .04	13.17 - .09
Mean Solar Date.	$\alpha^1$ Eridani.	$\eta$ Urs.Min., S. P.	$m$ Persei.	$\delta$ Mensæ.	$\tau$ Tauri.	$i$ Tauri.	$\zeta$ Aurigæ.	$\beta$ Eridani.
	97° 9' h m 4 6	346° 2' h m 4 20	47° 11' h m 4 25	170° 29' h m 4 25	67° 16' h m 4 35	71° 22' h m 4 44	49° 6' h m 4 54	95° 14' h m 5 2
(Dec. 30.4)	8.37 - .04	52.31 + .45	9.92 - .02	64.41 - .91	12.30 .00	30.75 + .01	16.94 + .02	5.15 + .01
Jan. 9.3	8.31 .08	52.84 .60	9.87 .08	63.41 1.09	12.27 - .04	30.74 - .04	16.93 - .04	5.14 - .03
19.3	8.22 .11	53.52 .75	9.76 .12	62.24 1.24	12.21 .08	30.68 .08	16.86 .09	5.08 .08
29.3	8.10 .14	54.33 .84	9.62 .17	60.93 1.36	12.10 .12	30.59 .11	16.74 .14	4.99 .10
Feb. 8.3	7.95 .15	55.19 .90	9.42 .21	59.53 1.44	11.96 .15	30.45 .14	16.57 .18	4.87 .14
18.2	7.80 - .17	56.13 + .95	9.21 - .23	58.06 -1.49	11.80 - .17	30.30 - .17	16.37 - .21	4.71 - .16
28.2	7.61 .18	57.08 .94	8.98 .24	56.55 1.49	11.61 .18	30.11 .18	16.14 .23	4.54 .17
Mar. 10.2	7.44 - .17	58.01 + .92	8.73 - .25	55.08 -1.44	11.43 - .18	29.93 - .18	15.91 - .23	4.36 - .18
Oct. 15.6	10.40 + .20	51.53 - .73	12.70 + .32	59.94 + .89	14.60 + .26	32.92 + .26	19.43 + .33	6.82 + .22
25.6	10.59 + .18	50.86 - .61	13.00 + .28	60.73 + .68	14.85 + .24	33.17 + .24	19.75 + .31	7.04 + .22
Nov. 4.5	10.75 .16	50.33 .47	13.26 .25	61.31 .47	15.08 .22	33.39 .22	20.05 .28	7.26 .21
14.5	10.90 .14	49.92 .32	13.50 .21	61.66 + .22	15.27 .19	33.60 .19	20.30 .24	7.46 .18
24.5	11.02 .10	49.68 - .15	13.68 .16	61.75 - .03	15.44 .15	33.77 .15	20.53 .21	7.62 .15
Dec. 4.5	11.09 .05	49.62 + .03	13.82 .12	61.59 .28	15.57 .12	33.90 .12	20.71 .15	7.76 .12
14.4	11.12 + .02	49.74 + .20	13.91 + .07	61.18 - .53	15.65 + .08	34.00 + .08	20.83 + .10	7.85 + .07
24.4	11.13 - .01	50.02 .37	13.95 + .01	60.54 .75	15.69 + .03	34.05 + .03	20.90 + .05	7.90 + .03
34.4	11.09 - .05	50.48 + .56	13.93 - .05	59.68 - .97	15.69 - .01	34.06 - .01	20.92 .00	7.91 - .01



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Mean Solar Date.	$\tau$ Orionis.	Groombr. 944.	$\chi$ Aurigæ.	$\kappa$ Orionis.	$\nu$ Aurigæ.	$\delta$ Doradus.	$\beta$ Aurigæ.	$\theta$ Aurigæ.
	$96^{\circ} 58'$ h m 5 11	$4^{\circ} 52'$ h m 5 24	$57^{\circ} 54'$ h m 5 25	$99^{\circ} 43'$ h m 5 42	$50^{\circ} 53'$ h m 5 43	$155^{\circ} 47'$ h m 5 44	$45^{\circ} 4'$ h m 5 50	$52^{\circ} 48'$ h m 5 51
(Dec. 30.4)	$54.84 + .02$	$41.28 - .22$	$5.77 + .06$	$11.85 + .06$	$21.78 + .07$	$37.15 - .13$	$55.74 + .08$	$43.54 + .08$
Jan. 9.4	$54.84 - .02$	$40.82 .70$	$5.80 .00$	$11.88 .00$	$21.82 + .01$	$36.97 .23$	$55.79 + .02$	$43.59 + .02$
19.4	$54.79 .06$	$39.89 1.16$	$5.77 - .05$	$11.84 - .05$	$21.80 - .04$	$36.70 .32$	$55.77 - .04$	$43.59 - .03$
29.4	$54.71 .10$	$38.52 1.58$	$5.70 .10$	$11.78 .09$	$21.73 .09$	$36.33 .40$	$55.70 .10$	$43.52 .09$
Feb. 8.3	$54.58 .14$	$36.75 1.94$	$5.57 .14$	$11.66 .13$	$21.61 .14$	$35.90 .46$	$55.57 .15$	$43.42 .13$
18.3	$54.43 - .16$	$34.66 -2.22$	$5.41 - .18$	$11.52 - .15$	$21.44 - .18$	$35.40 - .52$	$55.39 - .20$	$43.27 - .17$
28.3	$54.25 .18$	$32.34 2.39$	$5.22 .20$	$11.36 .17$	$21.25 .21$	$34.85 .56$	$55.16 .24$	$43.07 .21$
Mar. 10.3	$54.07 .19$	$29.92 2.45$	$5.01 .21$	$11.17 .18$	$21.02 .23$	$34.29 .57$	$54.91 .25$	$42.85 .22$
20.2	$53.88 - .19$	$27.47 -2.44$	$4.81 - .19$	$10.99 - .18$	$20.79 - .24$	$33.72 - .56$	$54.67 - .23$	$42.63 - .22$
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Oct. 25.6	$56.64 + .22$	$50.33 +2.60$	$8.18 + .30$	$13.43 + .24$	$24.19 + .32$	$35.95 + .46$	$58.21 + .37$	$45.86 + .33$
Nov. 4.6	$56.86 .21$	$52.77 2.27$	$8.47 .28$	$13.67 .23$	$24.51 .31$	$36.38 .40$	$58.57 .35$	$46.18 .31$
14.6	$57.07 .19$	$54.87 1.93$	$8.74 .25$	$13.90 .21$	$24.82 .29$	$36.74 .33$	$58.91 .32$	$46.48 .29$
24.5	$57.24 .16$	$56.64 1.56$	$8.97 .22$	$14.10 .18$	$25.09 .25$	$37.03 .24$	$59.21 .28$	$46.76 .26$
Dec. 4.5	$57.39 .12$	$57.97 1.10$	$9.17 .18$	$14.27 .15$	$25.32 .21$	$37.21 .13$	$59.47 .23$	$47.01 .22$
14.5	$57.48 + .08$	$58.83 + .60$	$9.32 + .13$	$14.40 + .11$	$25.51 + .16$	$37.30 + .03$	$59.67 + .17$	$47.20 + .16$
24.5	$57.55 + .04$	$59.17 + .09$	$9.43 .08$	$14.49 .07$	$25.64 .10$	$37.28 - .07$	$59.81 .12$	$47.33 .11$
34.4	$57.57 .00$	$59.02 - .39$	$9.48 + .02$	$14.53 + .02$	$25.71 + .04$	$37.17 - .16$	$59.90 + .07$	$47.42 + .07$
Mean Solar Date.	$\eta$ Geminor.	$\psi^1$ Aurigæ.	$\nu$ Geminor.	$\chi$ Draconis, S.P.	$\epsilon$ Geminor.	$\psi^2$ Aurigæ.	$\theta$ Geminor.	$\zeta$ Mensæ.
	$67^{\circ} 28'$ h m 6 7	$40^{\circ} 39'$ h m 6 15	$69^{\circ} 43'$ h m 6 21	$342^{\circ} 41'$ h m 6 23	$64^{\circ} 45'$ h m 6 36	$46^{\circ} 18'$ h m 6 38	$55^{\circ} 54'$ h m 6 45	$170^{\circ} 41'$ h m 6 49
(Dec. 30.5)	$47.97 + .10$	$52.17 + .13$	$59.99 + .11$	$6.11 + .02$	$42.99 + .13$	$17.20 + .14$	$3.59 + .13$	$57.82 - .16$
Jan. 9.5	$48.04 + .04$	$52.26 + .05$	$60.07 + .05$	$6.20 .16$	$43.09 .07$	$17.31 .07$	$3.70 .09$	$57.55 .38$
19.4	$48.05 - .01$	$52.27 - .02$	$60.09 .00$	$6.42 .30$	$43.13 + .02$	$17.35 + .02$	$3.76 + .03$	$57.05 .63$
29.4	$48.01 .06$	$52.22 .08$	$60.06 - .05$	$6.80 .44$	$43.12 - .03$	$17.34 - .04$	$3.75 - .03$	$56.29 .87$
Feb. 8.4	$47.92 .10$	$52.10 .15$	$60.00 .09$	$7.29 .54$	$43.06 .08$	$17.26 .11$	$3.70 .08$	$55.32 1.06$
18.4	$47.80 - .14$	$51.93 - .21$	$59.88 - .13$	$7.87 + .63$	$42.95 - .13$	$17.12 - .16$	$3.58 - .13$	$54.17 -1.22$
28.3	$47.64 .17$	$51.69 .25$	$59.74 .16$	$8.55 .71$	$42.80 .16$	$16.93 .19$	$3.44 .16$	$52.88 1.35$
Mar. 10.3	$47.47 .18$	$51.43 .27$	$59.56 .18$	$9.29 .75$	$42.64 .18$	$16.73 .22$	$3.25 .19$	$51.47 1.45$
20.3	$47.28 .19$	$51.15 .28$	$59.37 .18$	$10.04 .77$	$42.44 .19$	$16.48 .25$	$3.05 .21$	$49.99 1.50$
30.3	$47.09 .19$	$50.87 .27$	$59.19 .17$	$10.82 .77$	$42.26 .16$	$16.23 .25$	$2.83 .22$	$48.47 1.52$
Apr. 9.2	$46.91 - .18$	$50.61 - .24$	$59.03 - .15$	$11.58 + .74$	$42.13 - .10$	$15.98 - .24$	$2.61 - .22$	$46.96 -1.49$
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Nov. 14.6	$50.50 + .26$	$55.32 + .35$	$62.41 + .27$	$6.49 - .58$	$45.44 + .27$	$20.01 + .36$	$6.15 + .31$	$51.29 +1.12$
24.6	$50.75 .24$	$55.66 .33$	$62.67 .25$	$5.97 .46$	$45.71 .26$	$20.35 .32$	$6.45 .29$	$52.19 .78$
Dec. 4.6	$50.97 .21$	$55.97 .28$	$62.91 .22$	$5.58 .33$	$45.97 .24$	$20.66 .29$	$6.73 .27$	$52.85 .55$
14.5	$51.16 + .17$	$56.23 + .23$	$63.10 + .18$	$5.30 - .21$	$46.19 + .20$	$20.92 + .24$	$6.98 + .23$	$53.30 + .31$
24.5	$51.30 .12$	$56.42 .16$	$63.26 .13$	$5.17 - .06$	$46.36 .15$	$21.13 .18$	$7.18 .18$	$53.46 + .03$
34.5	$51.39 + .07$	$56.54 + .08$	$63.36 + .07$	$5.18 + .08$	$46.49 + .10$	$21.28 + .12$	$7.33 + .13$	$53.36 - .23$

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Mean Solar Date.	ζ Geminor.	63 Aurigæ.	25 Camelop.	γ <sup>2</sup> Volantis.	β Can. Min.	Groombr. 1374.	26 Lynceis.	ω <sup>1</sup> Cancri.
	69° 15' h m 6 57	50° 29' h m 7 3	7° 22' h m 7 6	160° 18' h m 7 9	81° 28' h m 7 20	15° 46' h m 7 46	42° 8' h m 7 46	64° 17' h m 7 53
(Dec. 30.5)	9.91 + .13	35.31 + .17	24.98 + .66	48.85 + .66	47.48 + .17	9.39 + .51	10.24 + .21	50.00 + .21
Jan. 9.5	9.32 .09	35.45 .11	25.46 + .30	48.85 - .66	47.62 .11	9.80 .31	10.43 .17	50.18 .16
19.5	9.39 + .04	35.53 + .03	25.58 - .03	48.73 .19	47.69 + .03	10.01 + .14	10.57 .11	50.31 .10
29.5	9.39 - .01	35.55 - .01	25.37 .38	48.47 .31	47.72 .00	10.08 - .01	10.65 + .03	50.37 + .04
Feb. 8.4	9.36 .06	35.50 .07	24.81 .71	48.11 .41	47.70 - .05	9.99 .18	10.64 - .04	50.39 - .01
18.4	9.27 - .10	35.41 - .19	23.95 - 1.00	47.65 - .51	47.63 - .09	9.71 - .34	10.57 - .10	50.35 - .06
28.4	9.14 .14	35.25 .17	22.81 1.95	47.10 .59	47.52 .12	9.31 .46	10.43 .17	50.27 .10
Mar. 10.3	8.98 .16	35.06 .29	21.46 1.43	46.48 .64	47.39 .15	8.78 .58	10.24 .21	50.14 .14
20.3	8.82 .18	34.85 .22	19.06 1.53	45.83 .67	47.22 .17	8.15 .66	10.01 .24	49.98 .17
30.3	8.62 .18	34.62 .23	18.41 1.58	45.15 .69	47.06 .17	7.46 .70	9.77 .25	49.81 .18
Apr. 9.3	8.45 - .16	34.39 - .22	16.81 - 1.58	44.47 - .70	46.88 - .17	6.75 - .72	9.51 - .26	49.64 - .19
19.2	8.28 - .14	34.18 - .20	15.26 - 1.59	43.75 - .73	46.72 - .15	6.03 - .72	9.25 - .26	49.43 - .20
Nov. 24.6	11.76 + .27	38.21 + .34	32.43 + 1.62	47.52 + .46	49.74 + .27	13.24 + .29	13.04 + .41	52.40 + .33
Dec. 4.6	12.02 .25	38.53 .29	33.06 1.42	47.94 .38	50.00 .25	14.08 .79	13.43 .38	52.71 .30
14.6	12.95 + .22	38.81 + .23	35.27 + 1.16	48.27 + .27	50.24 + .22	14.82 + .68	13.79 + .33	52.99 + .27
24.6	12.44 .17	39.04 .20	36.27 .24	48.47 .14	50.43 .14	15.44 .56	14.08 .28	53.24 .23
34.5	12.59 + .13	39.21 + .14	36.95 + .51	48.55 + .02	50.51 + .02	15.94 + .44	14.34 + .23	53.44 + .18
Mean Solar Date.	ζ <sup>1</sup> Cancri.	β Cancri.	30 Mono- cerotis.	θ Chamæ- leontis.	σ Hydræ.	γ Cancri.	σ <sup>2</sup> Cancri, (mean).	θ Hydræ.
	72° 0' h m 8 5	80° 27' h m 8 10	93° 31' h m 8 19	167° 6' h m 8 24	86° 15' h m 8 32	68° 6' h m 8 36	58° 58' h m 8 47	87° 11' h m 9 8
(Dec. 30.6)	29.02 + .22	9.22 + .21	48.04 + .21	14.86 + .36	37.59 + .21	29.72 + .23	5.01 + .28	15.59 + .23
Jan. 9.5	29.21 .16	9.40 .15	48.22 .15	15.13 + .18	37.78 .17	29.93 .20	5.26 .22	15.80 .20
19.5	29.33 .10	9.52 .10	48.34 .10	15.22 .00	37.93 .12	30.11 .15	5.45 .16	15.98 .16
29.5	29.42 + .03	9.60 + .03	48.42 + .03	15.13 - .18	38.03 .07	30.21 .08	-5.58 .11	16.11 .11
Feb. 8.5	29.44 .00	9.62 .00	48.44 .00	14.85 .37	38.07 + .02	30.27 + .03	5.66 + .03	16.19 .06
18.4	29.42 - .05	9.60 - .04	48.43 - .04	14.40 - .52	38.07 - .03	30.27 - .02	5.67 - .02	16.23 + .01
28.4	29.34 .10	9.53 .08	48.36 .08	13.81 .66	38.01 .07	30.23 .07	5.62 .07	16.20 - .04
Mar. 10.4	29.23 .13	9.43 .12	48.26 .12	13.09 .78	37.93 .10	30.14 .11	5.53 .10	16.15 .08
20.4	29.09 .15	9.29 .13	48.12 .14	12.25 .87	37.81 .13	30.02 .14	5.41 .14	16.05 .10
30.3	28.93 .16	9.14 .16	47.97 .15	11.35 .94	37.67 .13	29.87 .16	5.25 .17	15.94 .12
Apr. 9.3	28.76 - .17	8.97 - .17	47.82 - .16	10.37 - .99	37.51 - .16	29.70 - .17	5.07 - .18	15.81 - .14
19.3	28.59 .17	8.81 .16	47.65 .16	9.38 1.00	37.35 .16	29.54 .17	4.90 .18	15.65 .15
29.3	28.43 .16	8.65 .15	47.50 .14	8.38 .99	37.20 .13	29.37 .16	4.71 .17	15.51 .15
May 9.2	28.28 - .14	8.52 - .12	47.36 - .13	7.40 - .96	37.06 - .13	29.21 - .15	4.55 - .15	15.36 - .14



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Mean Solar Date.	$\beta$ Argus.	$\alpha$ Lynceis.	10 Leonis Minoris.	$\sigma$ Leonis.	$\zeta$ Chamæ- leontis.	19 Leonis Minoris.	$\pi$ Leonis.	$\lambda$ Ursæ Majoris.
	159° 14' h m 9 11	55° 7' h m 9 13	53° 5' h m 9 27	79° 34' h m 9 34	170° 25' h m 9 37	48° 23' h m 9 50	81° 23' h m 9 54	46° 30' h m 10 10
(Dec. 30.6)	57.73 + .39	54.14 + .30	1.81 + .30	53.08 + .31	25.34 + .90	29.45 + .34	0.53 + .98	0.63 + .37
Jan. 9.6	58.08 .98	54.41 .95	2.09 .97	53.36 .95	26.12 .66	29.77 .30	0.79 .95	0.98 .33
19.6	58.31 .16	54.64 .90	2.34 .92	53.58 .19	26.66 .43	30.04 .95	1.02 .90	1.29 .98
29.5	58.44 + .04	54.80 .13	2.52 .15	53.73 .14	26.98 + .90	30.27 .90	1.19 .15	1.54 .29
Feb. 8.5	58.44 - .07	54.90 .07	2.64 .09	53.85 .09	27.05 - .04	30.43 .13	1.32 .10	1.72 .15
18.5	58.33 - .18	54.94 + .09	2.70 + .03	53.90 + .04	26.90 - .96	30.52 + .06	1.39 + .06	1.83 + .09
28.4	58.11 .98	54.93 - .03	2.70 - .03	53.92 - .01	26.52 .48	30.54 .09	1.43 + .01	1.89 + .03
Mar. 10.4	57.79 .37	54.87 .09	2.64 .08	53.88 .06	25.95 .66	30.51 - .06	1.41 - .04	1.88 - .04
20.4	57.39 .45	54.75 .14	2.54 .19	53.80 .09	25.20 .83	30.42 .11	1.36 .07	1.81 .09
30.4	56.93 .50	54.60 .16	2.40 .15	53.70 .11	24.29 .98	30.29 .15	1.27 .10	1.69 .14
Apr. 9.3	56.42 - .54	54.43 - .17	2.24 - .17	53.58 - .13	23.24 -1.09	30.12 - .18	1.17 - .19	1.54 - .17
19.3	55.88 .57	54.26 .18	2.05 .18	53.44 .14	22.12 1.16	29.93 .19	1.03 .13	1.36 .19
29.3	55.32 .59	54.07 .19	1.87 .19	53.30 .14	20.91 1.24	29.73 .90	0.90 .13	1.16 .20
May 9.3	54.74 .59	53.88 .19	1.68 .18	53.16 .14	19.65 1.27	29.53 .90	0.77 .13	0.95 .21
19.2	54.16 - .56	53.70 - .17	1.50 - .17	53.03 - .13	18.38 -1.26	29.34 - .19	0.64 - .12	0.74 - .21
Mean Solar Date.	$\mu$ Hydræ.	$\beta$ Leonis Minoris.	$\alpha$ Antliæ.	$\beta$ Octantis, S. P.	41 Leonis Minoris.	$\delta$ Chamæ- leontis.	46 Leonis Minoris.	Groombr. 1706.
	106° 14' h m 10 20	52° 41' h m 10 21	120° 28' h m 10 21	188° 0' h m 10 33	66° 12' h m 10 37	169° 55' h m 10 44	55° 9' h m 10 46	11° 36' h m 10 50
Jan. 19.6	25.40 + .92	5.95 + .97	47.62 + .99	48.01 - .72	2.19 + .26	46.68 + .80	44.93 + .99	33.96 + .91
29.6	25.59 .17	6.20 .92	47.82 .18	47.41 .48	2.42 .21	47.38 .60	45.20 .24	34.79 .74
Feb. 8.5	25.73 .19	6.38 .15	47.97 .13	47.05 - .94	2.61 .16	47.88 .40	45.41 .18	35.44 .55
18.5	25.83 .08	6.50 .10	48.07 .08	46.94 .00	2.73 .11	48.17 + .19	45.56 .12	35.88 .34
28.5	25.88 + .03	6.57 + .04	48.12 + .02	47.05 + .92	2.82 + .06	48.25 - .02	45.65 .06	36.11 + .13
Mar. 10.5	25.88 - .02	6.57 - .01	48.10 - .03	47.40 + .47	2.84 .00	48.13 - .92	45.68 + .01	36.13 - .08
20.4	25.85 .05	6.54 .06	48.06 .06	48.00 .70	2.82 - .04	47.81 .41	45.67 - .04	35.94 .29
30.4	25.78 .08	6.45 .11	47.98 .10	48.79 .90	2.77 .07	47.32 .57	45.61 .08	35.56 .47
Apr. 9.4	25.69 .11	6.32 .14	47.87 .19	49.81 1.10	2.68 .10	46.67 .72	45.51 .11	35.00 .63
19.4	25.57 .13	6.16 .17	47.74 .14	50.98 1.25	2.55 .12	45.89 .84	45.39 .14	34.30 .76
29.3	25.44 - .13	5.99 - .18	47.59 - .15	52.32 +1.40	2.44 - .13	44.99 - .95	45.24 - .16	33.49 - .85
May 9.3	25.31 .13	5.81 .18	47.44 .16	53.77 1.50	2.30 .14	43.99 1.03	45.08 .16	32.60 .92
19.3	25.19 .13	5.64 .17	47.28 .16	55.32 1.58	2.16 .14	42.92 1.08	44.92 .16	31.66 .95
29.3	25.05 .13	5.48 .16	47.13 .15	56.93 1.62	2.03 .13	41.83 1.11	44.76 .16	30.70 .94
June 8.2	24.93 - .12	5.32 - .15	46.98 - .15	58.55 +1.62	1.90 - .12	40.69 -1.14	44.60 - .15	29.79 - .86

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Mean Solar Date.	$\eta$ Octantis.	$p^3$ Leonis.	$\psi$ Urs. Maj.	$\nu$ Urs. Maj.	$\xi$ Hydræ.	$\chi$ Urs. Maj.	$\pi$ Virginis.	$\epsilon$ Corvi.
	$173^{\circ} 58'$ h m 11 0	$87^{\circ} 24'$ h m 11 0	$44^{\circ} 52'$ h m 11 3	$56^{\circ} 16'$ h m 11 12	$121^{\circ} 12'$ h m 11 27	$41^{\circ} 34'$ h m 11 39	$82^{\circ} 44'$ h m 11 54	$111^{\circ} 58'$ h m 12 4
	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>
Feb. 8.6	18.64 + .76	55.60 + .17	4.42 + .22	8.95 + .20	14.67 + .20	51.66 + .27	51.89 + .21	6.03 + .23
18.6	19.23 .42	55.75 .12	4.61 .16	9.12 .15	14.85 .16	51.90 .21	52.08 .17	6.24 .19
28.5	19.48 + .09	55.84 .07	4.74 .10	9.24 .10	14.98 .11	52.08 .15	52.23 .13	6.40 .14
Mar. 10.5	19.41 - .24	55.89 + .03	4.80 + .03	9.31 + .05	15.06 .06	52.19 .08	52.34 .09	6.51 .10
20.5	19.00 .56	55.90 - .01	4.80 - .03	9.33 .00	15.09 + .01	52.24 + .02	52.41 .05	6.59 .06
30.4	18.31 - .84	55.87 - .04	4.74 - .08	9.30 - .05	15.09 - .02	52.23 - .04	52.44 + .01	6.63 + .02
Apr. 9.4	17.32 1.11	55.81 .06	4.64 .12	9.23 .09	15.05 .06	52.16 .09	52.44 - .03	6.64 - .01
19.4	16.11 1.33	55.74 .08	4.50 .16	9.13 .12	14.98 .09	52.05 .13	52.39 .05	6.62 .03
29.4	14.66 1.54	55.65 .10	4.33 .18	9.00 .14	14.88 .11	51.90 .17	52.34 .07	6.58 .06
May 9.3	13.05 1.69	55.54 .11	4.14 .19	8.86 .15	14.76 .12	51.71 .20	52.26 .08	6.49 .08
19.3	11.28 -1.82	55.43 - .12	3.94 - .20	8.71 - .16	14.64 - .13	51.51 - .21	52.18 - .10	6.41 - .09
29.3	9.43 1.88	55.31 .12	3.74 .20	8.55 .16	14.51 .14	51.30 .22	52.07 .11	6.31 .10
June 8.3	7.52 1.90	55.19 .10	3.55 .19	8.40 .15	14.35 .14	51.07 .22	51.97 .11	6.21 .12
18.2	5.63 -1.88	55.10 - .09	3.36 - .18	8.25 - .15	14.22 - .13	50.86 - .21	51.86 - .10	6.08 - .13
Mean Solar Date.	2 Can. Ven.	6 Urs. Min.	$\delta^2$ Corvi.	$\beta$ Can. Ven.	$\gamma$ Virginis, (mean.)	31 Cor. Bor.	$\gamma$ Cassiop., S. P.	43 Cephei, S. P.
	$48^{\circ} 41'$ h m 12 10	$1^{\circ} 39'$ h m 12 14	$105^{\circ} 51'$ h m 12 23	$48^{\circ} 0'$ h m 12 28	$90^{\circ} 48'$ h m 12 35	$61^{\circ} 49'$ h m 12 45	$330^{\circ} 5'$ h m 12 49	$355^{\circ} 37'$ h m 12 52
	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>
Feb. 8.6	15.02 + .27	41.69 +5.44	48.04 + .24	10.46 + .30	43.11 + .26	59.15 + .27	36.21 - .33	47.31 -2.32
18.6	15.27 .23	46.56 4.28	48.26 .21	10.73 .24	43.34 .21	59.40 .23	35.93 .23	45.19 1.92
28.6	15.47 .17	50.23 3.04	48.45 .16	10.94 .20	43.52 .17	59.61 .19	35.73 .17	43.47 1.50
Mar. 10.5	15.61 .12	52.62 1.70	48.58 .12	11.12 .15	43.67 .13	59.78 .15	35.59 .11	42.19 1.02
20.5	15.70 .06	53.58 + .26	48.68 .08	11.23 .08	43.78 .09	59.90 .10	35.54 - .03	41.43 - .50
30.5	15.73 + .01	53.15 -1.12	48.74 + .04	11.28 + .02	43.84 + .05	59.98 + .06	35.54 + .05	41.20 + .06
Apr. 9.5	15.72 - .04	51.35 2.45	48.76 + .01	11.28 - .02	43.88 + .02	60.02 + .02	35.64 .15	41.55 .60
19.4	15.66 .08	48.27 3.67	48.76 - .01	11.24 .06	43.88 - .01	60.01 - .02	35.83 .22	42.40 1.10
29.4	15.56 .11	44.03 4.72	48.74 .04	11.16 .10	43.86 .03	59.98 .05	36.09 .30	43.75 1.58
May 9.4	15.44 .14	38.81 5.65	48.68 .06	11.04 .13	43.81 .05	59.91 .07	36.43 .37	45.55 2.00
19.4	15.29 - .16	32.78 -6.36	48.61 - .07	10.91 - .15	43.76 - .07	59.83 - .09	36.83 + .43	47.74 +2.36
29.3	15.12 .17	26.15 6.85	48.53 .09	10.74 .17	43.68 .08	59.73 .11	37.29 .47	50.25 2.63
June 8.3	14.95 .18	19.15 7.13	48.43 .10	10.58 .17	43.59 .09	59.61 .12	37.77 .51	52.99 2.82
18.3	14.77 - .18	11.92 -7.26	48.33 - .10	10.40 - .17	43.40 - .10	59.49 - .12	38.31 + .57	55.89 +2.94



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Mean Solar Date.	$\delta$ Muscæ.	$\epsilon$ Virginis.	20 Can. Ven.	$\kappa$ Octantis.	B.A.C. 4536.	$m$ Virginis.	$\theta$ Apodis.	$\pi$ Hydræ.
	160° 55'	78° 24'	48° 48'	175° 11'	52° 13'	98° 6'	166° 14'	116° 7'
	<sub>h m</sub> 12 54	<sub>h m</sub> 12 56	<sub>h m</sub> 13 12	<sub>h m</sub> 13 22	<sub>h m</sub> 13 29	<sub>h m</sub> 13 35	<sub>h m</sub> 13 53	<sub>h m</sub> 13 59
Feb. 28.6	<sup>s</sup> 16.20 + .44	<sup>s</sup> 20.70 + .19	<sup>s</sup> 17.46 + .21	<sup>s</sup> 23.83 +1.90	<sup>s</sup> 33.93 + .24	<sup>s</sup> 27.68 + .20	<sup>s</sup> 59.62 + .83	<sup>s</sup> 42.00 + .23
Mar. 10.6	16.60 .35	20.86 .15	17.66 .19	25.56 1.56	34.15 .20	27.87 .18	60.39 .70	42.23 .22
20.6	16.90 .25	20.99 .11	17.84 .14	26.94 1.20	34.32 .16	28.03 .15	61.03 .58	42.45 .19
30.5	17.10 .15	21.07 .07	17.94 .09	27.93 .80	34.46 .12	28.17 .12	61.55 .45	42.62 .15
Apr. 9.5	17.20 + .05	21.12 .04	18.01 + .04	28.54 .42	34.55 .06	28.27 .09	61.94 .32	42.75 .12
19.5	17.21 - .04	21.15 + .01	18.02 .00	28.77 + .04	34.58 + .02	28.34 + .05	62.19 + .19	42.85 + .09
29.5	17.13 .13	21.13 - .02	18.00 - .05	28.61 - .35	34.58 - .02	28.37 + .02	62.32 + .06	42.93 .06
May 9.4	16.96 .21	21.11 .04	17.93 .08	28.06 .73	34.54 .05	28.39 .00	62.30 - .08	42.97 + .03
19.4	16.72 .29	21.05 .06	17.84 .12	27.14 1.08	34.48 .08	28.37 - .03	62.16 .20	42.98 .00
29.4	16.39 .36	20.98 .08	17.72 .14	25.90 1.39	34.38 .12	28.34 .05	61.90 .32	42.97 - .02
June 8.4	16.01 - .41	20.89 - .09	17.57 - .16	24.37 -1.68	34.25 - .14	28.28 - .06	61.53 - .43	42.94 - .05
18.3	15.57 .46	20.78 .11	17.40 .17	22.54 1.92	34.11 .15	28.22 .08	61.04 .54	42.87 .09
28.3	15.09 .48	20.66 .12	17.23 .18	20.54 2.10	33.95 .17	28.12 .10	60.46 .62	42.77 .11
July 8.3	14.62 - .46	20.55 - .10	17.04 - .20	18.34 -2.30	33.78 - .18	28.02 - .11	59.81 - .68	42.66 - .12
Mean Solar Date.	$\delta$ Bootis.	$\kappa$ Virginis.	$\delta$ Octantis.	4 Urs. Min.	$\lambda$ Bootis.	$\lambda$ Virginis.	$\alpha$ Apodis.	$\mu$ Hydri, S. P.
	64° 21'	99° 43'	173° 8'	11° 54'	43° 22'	102° 50'	168° 32'	190° 23'
	<sub>h m</sub> 14 5	<sub>h m</sub> 14 6	<sub>h m</sub> 14 8	<sub>h m</sub> 14 9	<sub>h m</sub> 14 11	<sub>h m</sub> 14 12	<sub>h m</sub> 14 33	<sub>h m</sub> 14 34
Mar. 20.6	<sup>s</sup> 3.62 + .20	<sup>s</sup> 38.96 + .19	<sup>s</sup> 25.16 +1.22	<sup>s</sup> 23.67 + .59	<sup>s</sup> 56.39 + .20	<sup>s</sup> 46.41 + .20	<sup>s</sup> 25.67 + .87	<sup>s</sup> 4.80 - .85
30.6	3.79 .15	39.13 .15	26.26 .98	24.16 .39	56.57 .16	46.59 .16	26.47 .73	4.03 .69
Apr. 9.5	3.90 .10	39.26 .11	27.14 .73	24.45 .20	56.71 .12	46.72 .13	27.12 .58	3.43 .51
19.5	3.98 .07	39.35 .08	27.71 .45	24.56 + .02	56.80 .07	46.84 .10	27.63 .43	3.01 .32
29.5	4.03 .04	39.42 .06	28.03 + .18	24.49 - .17	56.85 + .01	46.91 .07	27.98 .26	2.79 - .12
May 9.5	4.06 + .01	39.46 + .03	28.07 - .10	24.22 - .35	56.83 - .04	46.97 + .04	28.15 + .10	2.76 + .07
19.4	4.04 - .04	39.48 + .01	27.83 .36	23.80 .50	56.78 .07	46.98 + .01	28.17 - .06	2.94 .26
29.4	3.99 .06	39.48 - .02	27.34 .62	23.23 .64	56.69 .11	46.99 - .01	28.03 .22	3.29 .45
June 8.4	3.93 .08	39.44 .05	26.59 .87	22.52 .76	56.56 .15	46.96 .04	27.72 .38	3.85 .64
18.4	3.84 .10	39.39 .07	25.60 1.08	21.71 .85	56.40 .18	46.91 .06	27.26 .53	4.56 .78
28.3	3.73 - .13	39.31 - .09	24.43 -1.26	20.82 - .92	56.21 - .20	46.84 - .09	26.67 - .65	5.41 + .92
July 8.3	3.59 .14	39.21 .11	23.08 1.42	19.87 .98	56.00 .22	46.74 .11	25.96 .76	6.39 1.04
18.3	3.46 .15	39.10 .12	21.59 1.55	18.87 1.02	55.77 .24	46.63 .12	25.16 .85	7.48 1.12
28.2	3.30 - .16	38.98 - .12	19.98 -1.66	17.84 -1.04	55.53 - .24	46.51 - .12	24.27 - .93	8.62 +1.14

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Mean Solar Date.	33 Bootis.	47 Cephei, S. P.	$\gamma$ Scorpii.	$\delta$ Bootis.	$\rho$ Octantis.	$\beta$ Cor.Bor.	$\gamma$ Camelop., S. P.	$\delta^1$ Apodis.
	45 <sup>c</sup> 5' h m	348 <sup>c</sup> 57' h m	114 <sup>c</sup> 49' h m	56 <sup>c</sup> 15' h m	174 <sup>c</sup> 4' h m	60 <sup>c</sup> 29' h m	340 <sup>c</sup> 58' h m	168 <sup>c</sup> 24' h m
	14 34	14 50	14 57	15 10	15 16	15 22	15 37	16 2
Mar. 30.6	29.34 + .19	26.79 - .49	13.13 + .20	47.20 + .20	35.58 + 1.77	60.24 + .20	56.32 - .40	55.01 + 1.09
Apr. 9.6	29.51 .14	26.39 .30	13.33 .18	47.38 .17	37.21 1.48	60.43 .18	55.98 .28	56.04 .97
19.6	29.62 .09	26.20 - .09	13.49 .16	47.53 .14	38.55 1.19	60.60 .15	55.77 .15	56.95 .84
29.5	29.69 .05	26.22 + .12	13.64 .13	47.65 .10	39.59 .89	60.73 .12	55.68 - .03	57.72 .68
May 9.5	29.72 + .01	26.45 .35	13.74 .09	47.73 .07	40.32 .57	60.83 .06	55.72 + .10	58.32 .54
19.5	29.71 - .04	26.92 + .56	13.81 + .06	47.78 + .03	40.72 + .23	60.89 + .05	55.88 + .23	58.79 + .38
29.5	29.64 .09	27.57 .74	13.86 + .03	47.78 - .01	40.77 - .11	60.92 + .01	56.19 .37	59.07 .20
June 8.4	29.54 .12	28.40 .90	13.87 - .01	47.76 .04	40.51 .43	60.90 - .04	56.59 .47	59.19 + .03
18.4	29.41 .15	29.36 1.04	13.84 .04	47.69 .09	39.90 .76	60.85 .06	57.13 .57	59.13 - .16
28.4	29.25 .18	30.48 1.16	13.80 .07	47.59 .11	39.00 1.05	60.78 .09	57.73 .65	58.87 .33
July 8.4	29.06 - .21	31.67 + 1.23	13.71 - .10	47.47 - .14	37.79 - 1.33	60.67 - .12	58.43 + .73	58.46 - .48
18.3	28.83 .23	32.94 1.28	13.61 .12	47.31 .16	36.35 1.56	60.54 .14	59.18 .77	57.92 .62
28.3	28.60 .24	34.25 1.30	13.48 .14	47.15 .18	34.66 1.75	60.39 .17	59.96 .79	57.21 .76
Aug. 7.3	28.35 .25	35.55 1.30	13.33 .15	46.95 .20	32.86 1.84	60.21 .19	60.76 .81	56.41 .85
17.2	28.11 .24	36.83 1.27	13.18 .16	46.75 .21	30.98 1.89	60.02 .20	61.57 .81	55.51 .92
27.2	27.87 - .23	38.08 + 1.23	13.00 - .17	46.54 - .21	29.10 - 1.84	59.82 - .20	62.37 + .80	54.58 - .94
Mean Solar Date.	$\phi$ Herculis.	$\sigma$ Cor. Bor. (mean.)	$\gamma$ Apodis.	$\eta$ Urs.Min.	$\eta$ Ophiuchi.	$\pi$ Herculis.	$\theta$ Ophiuchi.	$\delta$ Arae.
	44 <sup>c</sup> 45' h m	55 <sup>c</sup> 50' h m	168 <sup>c</sup> 38' h m	13 <sup>c</sup> 58' h m	105 <sup>c</sup> 35' h m	53 <sup>c</sup> 3' h m	114 <sup>c</sup> 53' h m	150 <sup>c</sup> 35' h m
	16 5	16 10	16 15	16 20	17 3	17 10	17 14	17 20
Apr. 9.6	5.32 + .24	17.90 + .23	33.92 + 1.02	60.41 + .61	39.39 + .28	58.30 + .29	48.66 + .32	31.57 + .53
19.6	5.54 .20	18.11 .19	34.89 .92	60.96 .49	39.66 .25	58.58 .27	48.96 .28	32.08 .49
29.6	5.71 .16	18.28 .16	35.74 .76	61.40 .36	39.89 .23	58.83 .22	49.21 .25	32.55 .45
May 9.6	5.86 .13	18.43 .13	36.40 .60	61.67 .20	40.11 .20	59.02 .19	49.45 .22	32.97 .40
19.5	5.96 .08	18.54 .09	36.94 .45	61.81 + .06	40.28 .17	59.20 .16	49.65 .19	33.34 .34
29.5	6.01 + .03	18.61 + .05	37.30 + .26	61.78 - .11	40.44 + .15	59.33 + .11	49.83 + .16	33.65 + .27
June 8.5	6.01 - .02	18.63 + .01	37.46 + .08	61.60 .25	40.57 .11	59.42 .07	49.97 .13	33.88 .20
18.5	5.97 .07	18.63 - .03	37.45 - .10	61.27 .40	40.66 .08	59.47 + .03	50.09 .10	34.04 .13
28.4	5.87 .12	18.57 .07	37.25 .28	60.80 .53	40.72 + .03	59.48 - .02	50.16 .05	34.14 + .06
July 8.4	5.74 .16	18.49 .11	36.89 .44	60.21 .65	40.72 - .01	59.43 .07	50.19 + .01	34.15 - .02
18.4	5.56 - .20	18.36 - .14	36.37 - .60	59.50 - .75	40.71 - .04	59.35 - .10	50.18 - .04	34.09 - .10
28.3	5.35 .23	18.21 .17	35.69 .74	58.72 .82	40.65 .08	59.23 .15	50.12 .08	33.95 .18
Aug. 7.3	5.11 .25	18.02 .21	34.89 .85	57.85 .89	40.55 .12	59.04 .19	50.03 .12	33.73 .25
17.3	4.86 .27	17.80 .22	33.99 .93	56.94 .93	40.42 .14	58.85 .21	49.89 .15	33.46 .30
27.3	4.57 .28	17.58 .22	33.03 .98	55.99 .96	40.27 .16	58.62 .23	49.74 .17	33.14 .34
Sept. 6.2	4.30 - .28	17.36 - .23	32.04 - .98	55.02 - .96	40.10 - .18	58.38 - .24	49.56 - .19	32.78 - .36
16.2	4.02 .27	17.13 .23	31.07 .94	54.07 .92	39.91 .18	58.13 .25	49.37 .19	32.42 .37
26.2	3.76 .24	16.90 .24	30.17 .86	53.18 .86	39.74 .17	57.88 .25	49.18 .18	32.04 .37
Oct. 6.2	3.55 - .19	16.66 - .24	29.35 - .78	52.35 - .80	39.58 - .15	57.64 - .23	49.00 - .17	31.69 - .34



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Mean Solar Date.	Groombr. 944, S.P.	$\iota$ Herculis.	$\theta$ Herculis.	$\sigma$ Herculis.	$\lambda$ Sagittarii.	$\chi$ Draconis.	$\zeta$ Pavonis.	$\gamma$ Lyrae.
	355° 8' h m 17 24	43° 56' h m 17 36	52° 44' h m 17 52	61° 15' h m 18 2	115° 29' h m 18 20	17° 19' h m 18 23	161° 32' h m 18 29	57° 28' h m 18 54
May 19.6	17.54 - .50	10.99 + .19	15.22 + .20	59.26 + .21	44.98 + .24	14.03 + .43	22.37 + .62	34.50 + .24
29.6	17.28 - .04	11.15 .14	15.40 .16	59.45 .18	45.21 .22	14.40 .31	22.96 .56	34.73 .22
June 8.5	17.48 + .43	11.27 .10	15.53 .12	59.61 .13	45.42 .19	14.65 .19	23.48 .46	34.93 .19
18.5	18.15 .89	11.34 + .05	15.63 .08	59.71 .09	45.59 .15	14.78 + .07	23.88 .35	35.10 .14
28.5	19.25 1.32	11.36 - .01	15.68 + .03	59.79 .05	45.72 .12	14.78 - .06	24.17 .23	35.21 .10
July 8.5	20.77 +1.71	11.31 - .07	15.68 - .02	59.81 + .01	45.82 + .07	14.65 - .19	24.33 + .11	35.29 + .06
18.4	22.66 2.04	11.22 .12	15.63 .07	59.80 - .04	45.86 + .02	14.40 .31	24.38 - .02	35.33 + .01
28.4	24.84 2.34	11.08 .17	15.55 .12	59.74 .09	45.86 - .03	14.04 .42	24.29 .15	35.31 - .04
Aug. 7.4	27.33 2.60	10.88 .21	15.40 .16	59.63 .13	45.81 .07	13.57 .52	24.08 .26	35.25 .09
17.4	30.03 2.77	10.66 .25	15.23 .20	59.49 .16	45.72 .11	13.00 .62	23.77 .37	35.14 .14
27.3	32.87 +2.92	10.38 - .28	15.01 - .23	59.31 - .19	45.59 - .15	12.34 - .69	23.34 - .47	34.98 - .17
Sept. 6.3	35.87 3.02	10.10 .29	14.78 .25	59.11 .21	45.43 .17	11.63 .74	22.84 .54	34.80 .20
16.3	38.92 3.05	9.80 .30	14.53 .26	58.90 .22	45.25 .19	10.87 .78	22.26 .60	34.57 .22
26.2	41.96 3.01	9.49 .30	14.27 .25	58.67 .23	45.05 .19	10.08 .79	21.64 .62	34.35 .23
Oct. 6.2	44.92 2.92	9.20 .28	14.02 .24	58.45 .22	44.87 .19	9.29 .79	21.03 .61	34.12 .24
16.2	47.79 +2.81	8.93 - .26	13.78 - .23	58.23 - .21	44.68 - .18	8.50 - .78	20.43 - .59	33.88 - .24
Mean Solar Date.	$\iota$ Lyrae.	25 Camelop. S. P.	$\theta$ Lyrae.	$\beta$ Cygni.	$\beta$ Sagittæ.	$\delta$ Cygni.	Groombr. 1374, S.P.	$\epsilon$ Pavonis.
	54° 5' h m 19 3	352° 38' h m 19 6	52° 5' h m 19 12	62° 17' h m 19 25	72° 48' h m 19 35	45° 9' h m 19 41	344° 14' h m 19 46	163° 13' h m 19 47
May 29.6	8.41 + .24	10.65 - .68	19.20 + .26	60.67 + .23	47.89 + .24	20.04 + .28	3.77 - .40	3.39 + .76
June 8.6	8.63 .20	10.11 .40	19.43 .21	60.89 .21	48.12 .22	20.30 .25	3.44 .26	4.11 .68
18.6	8.80 .15	9.86 - .11	19.61 .16	61.09 .18	48.32 .19	20.53 .20	3.24 .14	4.74 .58
28.6	8.92 .11	9.89 + .17	19.74 .12	61.25 .13	48.50 .15	20.70 .15	3.16 - .01	5.26 .46
July 8.5	9.01 .06	10.20 .45	19.84 .07	61.35 .09	48.62 .11	20.82 .10	3.22 + .13	5.66 .34
18.5	9.04 + .01	10.80 + .74	19.88 + .02	61.43 + .05	48.71 + .07	20.90 + .04	3.41 + .25	5.94 + .20
28.5	9.03 - .04	11.68 .99	19.88 - .04	61.45 - .01	48.75 + .02	20.90 - .02	3.71 .37	6.06 + .05
Aug. 7.4	8.96 .09	12.77 1.20	19.81 .09	61.42 .05	48.75 - .03	20.86 .08	4.15 .48	6.05 - .08
17.4	8.85 .13	14.09 1.41	19.70 .13	61.35 .10	48.70 .07	20.75 .13	4.67 .58	5.89 .22
27.4	8.70 .17	15.59 1.60	19.55 .18	61.23 .14	48.61 .10	20.61 .18	5.31 .69	5.61 .34
Sept. 6.4	8.51 - .21	17.29 +1.77	19.35 - .22	61.08 - .16	48.50 - .14	20.40 - .22	6.05 + .77	5.21 - .46
16.3	8.28 .24	19.12 1.87	19.12 .24	60.91 .20	48.34 .17	20.17 .24	6.85 .84	4.69 .56
26.3	8.04 .24	21.03 1.95	18.88 .25	60.69 .22	48.17 .18	19.92 .27	7.72 .90	4.09 .63
Oct. 6.3	7.80 .25	23.02 2.02	18.63 .26	60.48 .22	47.98 .19	19.64 .29	8.65 .94	3.44 .67
16.3	7.55 .24	25.06 2.01	18.37 .25	60.26 .21	47.79 .19	19.35 .29	9.61 .96	2.76 .68
26.2	7.31 - .22	27.04 +1.98	18.13 - .23	60.06 - .20	47.60 - .18	19.07 - .28	10.57 + .98	2.08 - .66
Nov. 5.2	7.11 - .18	29.01 +1.95	17.91 - .21	59.87 - .18	47.44 - .15	18.79 - .27	11.56 + .99	1.44 - .61

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Mean Solar Date.	$\gamma$ Sagittæ.	$\epsilon$ Sagittarii.	$\theta$ Aquilæ.	$\phi^1$ Cygni.	$\alpha$ Delphini.	$\beta$ Pavonis.	$\psi$ Capricor.	$\epsilon$ Cygni.
	$70^{\circ} 50'$ h m 19 53	$118^{\circ} 2'$ h m 19 55	$91^{\circ} 10'$ h m 20 5	$43^{\circ} 37'$ h m 20 9	$74^{\circ} 30'$ h m 20 34	$156^{\circ} 38'$ h m 20 34	$115^{\circ} 42'$ h m 20 39	$56^{\circ} 28'$ h m 20 41
June 18.6	33.91 + .20	28.04 + .25	16.43 + .20	58.26 + .22	12.68 + .24	24.87 + .49	10.08 + .28	29.42 + .27
28.6	34.09 .16	28.28 .21	16.62 .18	58.46 .18	12.90 .20	25.34 .45	10.34 .24	29.66 .21
July 8.5	34.23 .13	28.45 .16	16.80 .15	58.62 .13	13.07 .16	25.76 .37	10.56 .20	29.84 .17
18.5	34.34 .09	28.59 .12	16.92 .11	58.72 .07	13.22 .13	26.08 .27	10.73 .16	29.99 .13
28.5	34.40 + .04	28.68 .07	17.01 .06	58.76 + .02	13.32 .08	26.29 .16	10.87 .11	30.09 .07
Aug. 7.5	34.41 - .01	28.72 + .01	17.04 + .01	58.76 - .03	13.37 + .04	26.41 + .06	10.95 + .06	30.13 + .02
17.4	34.38 .06	28.70 - .04	17.03 - .03	58.69 .09	13.39 - .01	26.41 - .04	10.98 + .01	30.13 - .02
27.4	34.30 .10	28.65 .08	16.99 .07	58.57 .15	13.35 .06	26.33 .14	10.96 - .04	30.09 .07
Sept. 6.4	34.19 .12	28.55 .12	16.90 .11	58.40 .20	13.28 .09	26.12 .25	10.90 .08	30.00 .11
16.4	34.06 .15	28.41 .16	16.78 .13	58.17 .24	13.17 .13	25.83 .33	10.80 .12	29.87 .16
26.3	33.88 - .18	28.24 - .18	16.64 - .15	57.92 - .26	13.03 - .15	25.47 - .40	10.67 - .15	29.69 - .18
Oct. 6.3	33.70 .18	28.06 .19	16.48 .17	57.65 .28	12.87 .17	25.04 .44	10.51 .17	29.51 .20
16.3	33.52 .19	27.87 .19	16.31 .17	57.37 .28	12.70 .18	24.59 .47	10.33 .18	29.29 .21
26.2	33.32 .19	27.68 .18	16.15 .16	57.09 .28	12.52 .17	24.11 .48	10.15 .18	29.09 .21
Nov. 5.2	33.15 .16	27.50 .17	15.98 .15	56.81 .27	12.36 .16	23.63 .46	9.97 .17	28.88 .20
15.2	33.00 - .14	27.35 - .14	15.85 - .12	56.55 - .25	12.20 - .15	23.19 - .43	9.82 - .15	28.68 - .19
25.2	32.88 - .11	27.23 - .11	15.74 - .10	56.31 - .23	12.05 - .14	22.78 - .39	9.67 - .13	28.50 - .17
Mean Solar Date.	$\tau$ Cygni.	$\zeta$ Capricor.	$\gamma$ Cygni.	$\lambda^1$ Octantis.	$\zeta$ Chamæ- leontis, S.P.	$\pi^2$ Cygni.	16 Pegasi.	$\pi$ Pegasi.
	$52^{\circ} 27'$ h m 21 10	$112^{\circ} 55'$ h m 21 19	$50^{\circ} 7'$ h m 21 32	$173^{\circ} 16'$ h m 21 32	$189^{\circ} 35'$ h m 21 37	$41^{\circ} 14'$ h m 21 42	$64^{\circ} 38'$ h m 21 47	$57^{\circ} 24'$ h m 22 4
July 8.6	8.50 + .20	59.60 + .23	16.82 + .23	54.35 + 1.34	12.89 - .80	29.82 + .26	45.12 + .23	48.38 + .27
18.6	8.68 .16	59.80 .19	17.02 .18	55.57 1.08	12.17 .64	30.06 .21	45.33 .19	48.62 .21
28.5	8.81 .11	59.97 .15	17.18 .14	56.51 .79	11.62 .44	30.23 .15	45.50 .15	48.80 .17
Aug. 7.5	8.90 .06	60.10 .10	17.30 .09	57.15 .47	11.30 - .21	30.36 .10	45.62 .11	48.95 .12
17.5	8.93 + .01	60.17 + .05	17.35 + .03	57.44 + .14	11.19 .00	30.42 + .03	45.71 .07	49.04 .08
27.5	8.91 - .05	60.19 .00	17.36 - .02	57.42 - .19	11.30 + .24	30.42 - .02	45.75 + .02	49.10 + .03
Sept. 6.4	8.84 .10	60.17 - .04	17.31 .08	57.05 .52	11.68 .48	30.38 .07	45.74 - .03	49.10 - .02
16.4	8.72 .14	60.11 .09	17.21 .12	56.33 .87	12.25 .67	30.28 .13	45.68 .07	49.07 .06
26.4	8.57 .17	60.00 .12	17.08 .15	55.32 1.14	13.01 .88	30.12 .18	45.60 .10	48.98 .10
Oct. 6.3	8.39 .20	59.88 .14	16.91 .18	54.05 1.38	14.01 1.07	29.91 .21	45.48 .13	48.87 .13
16.3	8.18 - .21	59.73 - .16	16.71 - .20	52.55 - 1.57	15.16 + 1.22	29.69 - .23	45.34 - .15	48.73 - .15
26.3	7.97 .21	59.56 .17	16.50 .21	50.92 1.69	16.45 1.32	29.45 .25	45.18 .16	48.57 .17
Nov. 5.3	7.76 .21	59.39 .17	16.29 .22	49.17 1.76	17.80 1.38	29.19 .26	45.02 .17	48.39 .18
15.2	7.55 .21	59.23 .16	16.06 .21	47.41 1.75	19.21 1.40	28.92 .27	44.84 .16	48.21 .18
25.2	7.34 .20	59.09 .14	15.86 .20	45.68 1.68	20.60 1.36	28.66 .26	44.69 .15	48.03 .17
Dec. 5.2	7.16 - .17	58.96 - .12	15.67 - .18	44.06 - 1.53	21.93 + 1.30	28.41 - .24	44.54 - .14	47.87 - .17



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Mean Solar Date.	$\nu$ Octantis.	$\gamma$ Aquarii.	$\sigma$ Aquarii.	$\alpha$ Lacertæ.	$\beta$ Octantis.	10 Lacertæ.	$\lambda$ Pegasi.	Groombr. 1706, S.P.	
	176° 34'	91° 59'	101° 17'	40° 19'	172° 0'	51° 34'	67° 3'	348° 24'	
	$\begin{smallmatrix} h & m \\ 22 & 8 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 15 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 24 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 26 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 33 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 34 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 40 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 50 \end{smallmatrix}$	
July	8.6	59.40 +2.86	37.11 + .25	27.48 + .25	29.61 + .32	63.21 +1.35	1.58 + .30	54.25 + .28	27.31 - .68
	18.6	62.05 2.42	37.34 .21	27.72 .23	29.91 .28	64.49 1.21	1.85 .25	54.51 .25	26.69 .56
Aug.	28.6	64.23 1.92	37.53 .17	27.94 .19	30.16 .22	65.62 1.01	2.08 .21	54.74 .20	26.20 .43
	7.5	65.87 1.34	37.68 .14	28.10 .14	30.34 .16	66.50 .76	2.26 .16	54.91 .15	25.84 .30
Sept.	17.5	66.90 .72	37.80 .10	28.22 .11	30.47 .10	67.13 .52	2.40 .11	55.04 .12	25.60 .16
	27.5	67.30 + .07	37.87 + .05	28.31 + .07	30.54 + .05	67.49 + .22	2.48 + .06	55.14 + .08	25.52 - .01
Oct.	6.5	67.04 - .59	37.90 + .01	28.35 + .02	30.56 .00	67.57 - .07	2.51 + .01	55.20 + .03	25.58 + .15
	16.4	66.11 1.23	37.89 - .03	28.35 - .02	30.53 - .06	67.35 .36	2.50 - .03	55.20 - .02	25.83 .32
Nov.	26.4	64.59 1.82	37.84 .06	28.31 .06	30.44 .11	66.84 .63	2.45 .08	55.17 .05	26.22 .47
	6.4	62.46 2.40	37.77 .09	28.24 .08	30.31 .16	66.10 .87	2.35 .12	55.11 .08	26.77 .61
Dec.	16.4	59.81 -2.85	37.67 - .11	28.15 - .11	30.13 - .20	65.09 -1.10	2.22 - .14	55.01 - .11	27.44 + .75
	26.3	56.78 3.19	37.56 .13	28.03 .13	29.92 .22	63.90 1.29	2.08 .16	54.90 .12	28.28 .90
Jan.	5.3	53.44 3.44	37.42 .14	27.90 .13	29.69 .24	62.56 1.40	1.91 .19	54.77 .14	29.23 1.00
	15.3	49.93 3.54	37.28 .13	27.77 .14	29.44 .25	61.11 1.48	1.71 .19	54.63 .15	30.28 1.10
Feb.	25.2	46.38 3.52	37.16 .12	27.63 .14	29.19 .25	59.61 1.48	1.53 .19	54.48 .15	31.44 1.18
	5.2	42.93 -3.35	37.03 - .11	27.50 - .13	28.94 - .24	58.15 -1.44	1.34 - .19	54.33 - .14	32.63 +1.21
Mar.	15.2	39.71 -3.08	36.93 - .09	27.38 - .11	28.70 - .23	56.74 -1.38	1.15 - .18	54.20 - .12	33.85 +1.22
Mean Solar Date.	$\sigma$ Androm.	$\phi$ Aquarii.	$\tau$ Pegasi.	$\lambda$ Androm.	$\delta$ Aquarii.	$\delta$ Sculptoris.	$\gamma$ Octantis.	33 Piscium.	
	48° 18'	96° 41'	66° 54'	44° 11'	108° 56'	118° 47'	172° 40'	96° 22'	
	$\begin{smallmatrix} h & m \\ 22 & 56 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 8 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 14 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 31 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 38 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 42 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 45 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 59 \end{smallmatrix}$	
July	28.6	33.69 + .24	16.38 + .22	51.64 + .23	51.69 + .30	8.38 + .28	50.23 + .27	14.57 +1.37	21.17 + .26
	Aug.	7.6	33.91 .19	16.58 .18	51.85 .19	51.96 .25	8.63 .22	50.48 .23	15.86 1.21
Sept.	17.6	34.07 .14	16.74 .15	52.02 .15	52.18 .19	8.82 .17	50.69 .19	16.96 .98	21.62 .19
	27.5	34.19 .10	16.87 .11	52.14 .11	52.34 .14	8.97 .14	50.85 .15	17.80 .70	21.78 .15
Oct.	6.5	34.26 + .04	16.95 .06	52.23 .07	52.46 .09	9.09 .10	50.98 .11	18.36 .40	21.91 .11
	16.5	34.26 - .01	16.99 + .02	52.27 + .03	52.52 + .04	9.17 + .06	51.07 + .06	18.60 + .11	22.00 + .08
Nov.	26.4	34.24 .05	16.99 - .01	52.29 - .01	52.54 .00	9.20 + .02	51.10 + .02	18.57 - .20	22.06 + .04
	6.4	34.17 .09	16.97 .04	52.25 .04	52.52 - .05	9.20 - .02	51.10 - .03	18.19 .52	22.07 .00
Dec.	16.4	34.06 .12	16.91 .08	52.20 .07	52.45 .09	9.16 .06	51.05 .07	17.53 .80	22.06 - .03
	26.4	33.93 .15	16.82 .10	52.11 .10	52.35 .12	9.09 .09	50.97 .19	16.58 1.07	22.02 .06
Jan.	5.3	33.77 - .17	16.71 - .11	52.00 - .12	52.21 - .15	8.99 - .11	50.86 - .12	15.40 -1.29	21.95 - .08
	15.3	33.59 .19	16.60 .12	51.88 .13	52.05 .18	8.88 .12	50.74 .13	13.99 1.47	21.87 .09
Feb.	25.3	33.39 .20	16.48 .13	51.75 .14	51.86 .20	8.75 .13	50.60 .14	12.47 1.57	21.77 .10
	5.3	33.19 .20	16.35 .12	51.61 .14	51.65 .21	8.62 .13	50.46 .15	10.85 1.64	21.67 .11
Mar.	15.2	33.00 .19	16.24 .11	51.48 .14	51.45 .21	8.50 .13	50.31 .15	9.19 1.65	21.55 .12
	25.2	32.82 - .19	16.13 - .10	51.34 - .13	51.23 - .21	8.37 - .12	50.16 - .14	7.55 -1.60	21.43 - .12
Apr.	35.2	32.63 - .18	16.04 - .08	51.21 - .12	51.02 - .20	8.25 - .11	50.02 - .13	6.00 -1.48	21.32 - .11

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Mean Solar Date.	$\beta$ Cassiop.	$\gamma$ Androm.	$\sigma$ Androm.	$\epsilon$ Ceti.	6 Urs. Min., S. P.	44 Piscium.	$\pi$ Androm.	$\phi$ Cassiop.
	$31^{\circ} 30'$ h m	$44^{\circ} 35'$ h m	$53^{\circ} 52'$ h m	$99^{\circ} 28'$ h m	$358^{\circ} 21'$ h m	$88^{\circ} 43'$ h m	$56^{\circ} 56'$ h m	$42^{\circ} 21'$ h m
	0 2	0 4	0 12	0 13	0 13	0 19	0 30	0 38
(Dec. 30.3)	<sup>s</sup> 57.60 - .30	<sup>s</sup> 15.59 - .20	<sup>s</sup> 14.04 - .16	<sup>s</sup> 28.47 - .11	<sup>s</sup> 68.03 +7.45	<sup>s</sup> 25.04 - .11	<sup>s</sup> 39.11 - .14	<sup>s</sup> 13.91 - .19
Jan. 9.2	57.31 .29	15.40 .19	13.87 .16	28.36 .11	75.46 7.38	24.94 .11	38.97 .15	13.71 .21
19.2	57.03 .29	15.21 .19	13.71 .16	28.25 .12	82.68 7.02	24.82 .13	38.82 .17	13.49 .23
29.2	56.73 - .29	15.02 - .19	13.55 - .16	28.14 - .12	89.39 +6.37	24.68 - .14	38.65 - .18	13.26 - .24
Sept. 5.5	62.24 + .22	19.49 + .22	17.64 + .15	31.05 + .17	23.45 -2.37	28.14 + .18	42.45 + .21	17.59 + .25
15.5	62.39 .15	19.62 .15	17.77 .10	31.79 .13	21.58 1.35	28.32 .13	42.63 .16	17.80 .19
25.5	62.48 + .07	19.72 + .06	17.84 .05	31.88 .06	20.75 - .28	28.42 .06	42.76 .09	17.96 .11
Oct. 5.5	62.49 - .02	19.73 - .01	17.87 + .01	31.90 + .01	21.03 + .83	28.44 + .01	42.82 + .03	18.03 + .04
15.4	62.44 .08	19.70 .06	17.87 - .02	31.89 - .02	22.41 1.91	28.44 - .01	42.82 - .01	18.04 - .01
25.4	62.33 - .12	19.64 - .08	17.84 - .05	31.87 - .04	24.85 +3.02	28.42 - .03	42.81 - .03	18.03 - .03
Nov. 4.4	62.21 .17	19.55 .12	17.77 .08	31.83 .07	28.45 4.11	28.39 .06	42.79 .06	17.98 .07
14.4	62.01 .23	19.42 .16	17.68 .12	31.74 .10	33.03 5.05	28.32 .09	42.71 .10	17.89 .12
24.3	61.75 .27	19.24 .18	17.55 .13	31.64 .10	38.50 5.89	28.22 .09	42.59 .12	17.75 .16
Dec. 4.3	61.49 .28	19.07 .18	17.42 .14	31.53 .11	44.79 6.62	28.13 .09	42.48 .12	17.60 .16
14.3	61.22 - .30	18.90 - .20	17.26 - .16	31.43 - .12	51.69 +7.14	28.03 - .12	42.36 - .15	17.43 - .20
24.2	60.89 .31	18.67 .21	17.09 .16	31.30 .13	59.01 7.45	27.90 .14	42.20 .17	17.21 .22
34.2	60.59 - .30	18.47 - .20	16.93 - .16	31.15 - .14	66.50 +7.50	27.75 - .15	42.02 - .18	16.98 - .23
Mean Solar Date.	$\delta$ Piscium.	$\gamma$ Cassiop.	$\mu$ Androm.	43 Cephei.	$f$ Piscium.	$\kappa$ Tucanæ.	$\kappa$ Octantis, S. P.	$v$ Androm.
	$83^{\circ} 3'$ h m	$29^{\circ} 55'$ h m	$52^{\circ} 8'$ h m	$4^{\circ} 22'$ h m	$87^{\circ} 0'$ h m	$159^{\circ} 30'$ h m	$184^{\circ} 49'$ h m	$49^{\circ} 11'$ h m
	0 42	0 49	0 50	0 52	1 11	1 11	1 22	1 29
(Dec. 30.3)	<sup>s</sup> 37.66 - .11	<sup>s</sup> 41.14 - .28	<sup>s</sup> 17.02 - .16	<sup>s</sup> 66.77 -2.62	<sup>s</sup> 46.90 - .10	<sup>s</sup> 48.07 - .56	<sup>s</sup> 18.05 +2.95	<sup>s</sup> 57.72 - .15
Jan. 9.2	37.56 .12	40.83 .32	16.85 .17	64.17 2.62	46.79 .12	47.50 .57	20.96 2.91	57.56 .17
19.2	37.43 .13	40.49 .35	16.68 .19	61.54 2.70	46.66 .14	46.92 .55	23.86 2.85	57.37 .21
29.2	37.29 - .14	40.13 - .36	16.47 - .20	58.79 -2.79	46.51 - .15	46.38 - .50	26.65 +2.70	57.15 - .25
Sept. 25.5	40.93 + .09	45.82 + .14	20.68 + .09	86.63 + .87	49.95 + .09	52.18 + .14	13.28 - .68	61.21 + .14
Oct. 5.5	40.99 .04	45.91 .07	20.76 .05	87.19 + .54	50.03 .05	52.27 + .06	12.83 - .20	61.33 .10
15.5	41.01 + .02	45.98 + .01	20.79 + .02	87.23 .00	50.06 .04	52.30 - .02	12.88 + .30	61.41 .07
25.4	41.02 .00	45.96 - .04	20.80 .00	86.87 - .54	50.12 + .03	52.25 .14	13.43 .79	61.49 + .05
Nov. 4.4	41.00 - .04	45.91 .09	20.79 - .04	86.18 .90	50.12 - .02	52.06 .26	14.46 1.28	61.53 .00
14.4	40.95 - .07	45.80 - .16	20.73 - .08	85.05 -1.40	50.09 - .05	51.74 - .34	16.00 +1.74	61.50 - .05
24.4	40.87 .08	45.58 .21	20.62 .10	83.36 1.90	50.04 .06	51.38 .40	17.93 2.12	61.44 .08
Dec. 4.3	40.79 .08	45.36 .23	20.52 .12	81.37 2.08	49.98 .07	50.97 .47	20.25 2.46	61.36 .09
14.3	40.70 .11	45.13 .28	20.40 .15	79.22 2.30	49.90 .10	50.46 .52	22.84 2.70	61.27 .12
24.3	40.57 .13	44.81 .31	20.23 .17	76.72 2.50	49.78 .12	49.92 .52	25.62 2.83	61.11 .15
34.2	40.43 - .14	44.50 - .32	20.05 - .18	74.20 -2.60	49.67 - .11	49.43 - .49	28.49 +2.88	60.96 - .16



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Mean Solar Date.	$\pi$ Piscium.	$\nu$ Piscium.	$\zeta$ Ceti.	$\gamma$ Androm.	$\beta$ Trianguli.	4 Urs. Min., S. P.	$\gamma$ Trianguli.	67 Ceti.
	$78^{\circ} 27'$ h m 1 30	$85^{\circ} 6'$ h m 1 35	$100^{\circ} 55'$ h m 1 45	$48^{\circ} 14'$ h m 1 56	$55^{\circ} 34'$ h m 2 2	$348^{\circ} 6'$ h m 2 9	$56^{\circ} 42'$ h m 2 10	$96^{\circ} 58'$ h m 2 11
(Dec. 30.3)	<sup>s</sup> 55.08 - .10	<sup>s</sup> 21.81 - .10	<sup>s</sup> 42.25 - .11	<sup>s</sup> 45.20 - .15	<sup>s</sup> 36.87 - .12	<sup>s</sup> 14.77 +1.00	<sup>s</sup> 23.50 - .11	<sup>s</sup> 10.15 - .09
Jan. 9.3	54.97 .12	21.70 .12	42.13 .13	45.04 .17	36.74 .15	15.80 1.06	23.38 .14	10.05 .12
19.2	54.83 .14	21.57 .14	41.99 .15	44.85 .20	36.56 .18	16.89 1.11	23.22 .16	9.91 .15
29.2	54.69 - .15	21.43 - .16	41.84 - .17	44.62 - .22	36.38 - .20	18.02 +1.11	23.02 - .22	9.76 - .17
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Sept. 25.6	58.06 + .11	24.70 + .11	44.96 + .11	48.51 + .18	39.98 + .18	11.83 - .60	26.51 + .19	12.67 + .14
Oct. 5.6	58.16 .08	24.80 .08	45.07 .09	48.68 .14	40.15 .14	11.31 .44	26.69 .15	12.81 .11
15.5	58.23 .06	24.87 .07	45.14 .07	48.80 .11	40.28 .11	10.95 .28	26.82 .12	12.91 .10
25.5	58.30 + .04	24.94 .04	45.22 .05	48.91 .09	40.39 .09	10.76 - .11	26.94 .10	13.01 .08
Nov. 4.5	58.33 .00	24.98 + .01	45.25 + .01	48.99 + .04	40.46 + .05	10.73 + .07	27.02 .06	13.06 + .04
14.4	58.31 - .03	24.96 - .03	45.24 - .03	49.01 - .01	40.48 .00	10.90 + .27	27.07 + .01	13.09 .00
24.4	58.26 .05	24.92 .04	45.20 .05	48.97 .05	40.45 - .02	11.27 .45	27.05 - .02	13.07 - .02
Dec. 4.4	58.22 .05	24.88 .05	45.16 .06	48.93 .06	40.43 .04	11.80 .61	27.03 .04	13.05 .04
14.4	58.17 .09	24.83 .09	45.10 .09	48.86 .11	40.38 .08	12.50 .78	27.00 .08	13.02 .08
24.3	58.05 .12	24.71 .12	44.98 .11	48.72 .14	40 27 .13	13.35 .92	26.89 .12	12.91 .11
34.3	57.92 - .13	24.58 - .13	44.86 - .12	48.57 - .15	40.12 - .15	14.34 +1.06	26.74 - .15	12.80 - .12
Mean Solar Date.	$\delta$ Hydr.	$\delta$ Ceti.	$\mu$ Hydr.	$\theta$ Persei.	$\sigma$ Arietis.	47 Cephei.	$\epsilon$ Arietis.	$\beta$ Persei, ( <i>Algol.</i> )
	$159^{\circ} 12'$ h m 2 19	$90^{\circ} 11'$ h m 2 33	$169^{\circ} 37'$ h m 2 34	$41^{\circ} 16'$ h m 2 36	$75^{\circ} 24'$ h m 2 45	$11^{\circ} 3'$ h m 2 50	$69^{\circ} 8'$ h m 2 52	$49^{\circ} 30'$ h m 3 0
(Dec. 30.3)	<sup>s</sup> 41.27 - .54	<sup>s</sup> 30.65 - .08	<sup>s</sup> 12.16 -1.18	<sup>s</sup> 15.30 - .15	<sup>s</sup> 3.75 - .07	<sup>s</sup> 42.45 - .66	<sup>s</sup> 33.24 - .07	<sup>s</sup> 35.89 - .10
Jan. 9.3	40.71 .58	30.56 .11	10.93 1.25	15.14 .19	3.67 .11	41.81 .81	33.16 .11	35.76 .15
19.3	40.11 .59	30.43 .15	9.67 1.26	14.93 .23	3.54 .15	40.92 .97	33.02 .15	35.60 .20
29.3	39.53 .58	30.25 .18	8.43 1.23	14.68 .26	3.37 .15	39.85 1.04	32.86 .16	35.38 .21
Feb. 8.2	38.96 - .56	30.05 - .21	7.23 -1.17	14.42 - .24	3.23 - .14	38.83 -1.00	32.70 - .15	35.19 - .20
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Oct. 25.5	43.81 + .02	33.44 + .10	14.19 + .07	19.14 + .17	6.71 + .14	50.92 + .52	36.24 + .14	39.27 + .19
Nov. 4.5	43.78 - .09	33.54 .06	14.10 - .21	19.29 .11	6.81 .08	51.36 .30	36.36 .10	39.44 .13
14.5	43.65 .19	33.59 + .02	13.79 .38	19.37 + .04	6.86 .04	51.57 + .07	36.44 .05	39.54 .08
24.4	43.43 .28	33.59 - .00	13.31 .54	19.38 .00	6.89 + .02	51.53 - .11	36.47 .03	39.59 .04
Dec. 4.4	43.13 - .38	33.59 - .01	12.62 - .79	19.37 - .03	6.90 - .00	51.37 - .25	36.50 + .01	39.63 + .01
14.4	42.71 .45	33.56 .04	11.90 1.00	19.34 .09	6.89 .04	51.05 .45	36.49 - .04	39.62 - .04
24.4	42.23 .51	33.49 .07	10.91 1.07	19.21 .13	6.83 .07	50.51 .61	36.43 .07	39.55 .10
34.3	41.71 - .57	33.40 - .09	9.77 -1.10	19.06 - .15	6.76 - .09	49.83 - .74	36.36 - .08	39.44 - .12

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Mean Solar Date.	$\rho$ Octantis.	$\iota$ Hydr.	$f$ Tauri.	$\gamma$ Camelop.	$\gamma$ Hydr.	$\epsilon$ Persei.	$A^1$ Tauri.	$c$ Persei.
	S. P.							
	185° 56' h m 3 16	167° 49' h m 3 18	77° 28' h m 3 24	19° 2' h m 3 38	161° 36' h m 3 49	50° 20' h m 3 50	68° 14' h m 3 57	42° 36' h m 4 0
(Dec. 30.4)	<sup>s</sup> 27.87 +2.17	<sup>s</sup> 56.38 - .91	<sup>s</sup> 26.70 - .04	<sup>s</sup> 6.86 - .24	<sup>s</sup> 6.46 - .64	<sup>s</sup> 2.83 - .06	<sup>s</sup> 48.92 - .02	<sup>s</sup> 13.19 - .06
Jan. 9.3	30.11 2.30	55.43 .99	26.65 .09	6.58 .37	5.77 .73	2.75 .10	48.88 .07	13.10 .12
19.3	32.48 2.44	54.39 1.05	26.54 .15	6.15 .50	5.03 .79	2.63 .17	48.78 .13	12.95 .19
29.3	34.97 2.50	53.34 1.07	26.38 .15	5.59 .55	4.22 .84	2.43 .19	48.63 .15	12.74 .22
Feb. 8.2	37.45 2.49	52.25 1.12	26.25 .15	5.05 .55	3.32 .88	2.25 .19	48.48 .15	12.53 .22
18.2	39.95 +2.45	51.11 -1.17	26.09 - .15	4.50 - .55	2.46 - .90	2.05 - .23	48.34 - .18	12.31 - .26
28.2	42.34 +2.32	49.91 -1.21	25.94 - .15	3.95 - .55	1.58 - .86	1.80 - .28	48.13 - .24	12.01 - .33
Nov. 4.5	33.93 + .06	56.86 + .08	29.55 + .12	12.56 + .35	6.52 + .16	6.13 + .18	51.77 + .16	16.71 + .23
14.5	34.21 .48	56.85 - .09	29.65 .08	12.85 .21	6.64 + .03	6.30 .13	51.92 .12	16.90 .17
24.5	34.89 + .89	56.68 - .27	29.71 + .06	13.01 + .12	6.62 - .12	6.41 + .10	52.03 + .10	17.05 + .12
Dec. 4.4	35.99 1.29	56.31 .48	29.78 + .04	13.11 + .04	6.44 .27	6.51 .08	52.12 .07	17.17 .09
14.4	37.47 1.64	55.74 .65	29.80 - .01	13.11 - .10	6.12 .42	6.58 + .01	52.20 + .02	17.25 + .02
24.4	39.26 1.93	55.02 .79	29.77 .06	12.92 .22	5.64 .52	6.55 - .04	52.19 - .03	17.23 - .03
34.4	41.32 +2.18	54.15 - .90	29.68 - .10	12.66 - .31	5.08 - .60	6.49 - .07	52.14 - .06	17.13 - .07
Mean Solar Date.	$\phi^1$ Eridani.	$\eta$ Urs.Min., S. P.	$m$ Persei.	$\delta$ Mensæ.	$\tau$ Tauri.	$i$ Tauri.	$\zeta$ Aurigæ.	$\beta$ Eridani.
	97° 9' h m 4 6	346° 1' h m 4 20	47° 11' h m 4 25	170° 29' h m 4 25	67° 16' h m 4 35	71° 22' h m 4 44	49° 6' h m 4 54	95° 14' h m 5 2
(Dec. 30.4)	<sup>s</sup> 11.10 - .02	<sup>s</sup> 50.29 + .45	<sup>s</sup> 13.94 - .02	<sup>s</sup> 60.10 - .95	<sup>s</sup> 15.69 + .01	<sup>s</sup> 34.06 + .03	<sup>s</sup> 20.90 + .03	<sup>s</sup> 7.91 + .01
Jan. 9.3	11.06 .08	50.82 .61	13.89 .07	59.08 1.11	15.68 - .05	34.05 - .04	20.89 - .04	7.90 - .03
19.3	10.95 .13	51.51 .74	13.78 .15	57.90 1.23	15.61 .11	33.99 .10	20.82 .12	7.85 .09
29.3	10.81 .14	52.31 .84	13.60 .19	56.64 1.34	15.47 .14	33.87 .13	20.67 .16	7.73 .12
Feb. 8.3	10.68 .15	53.18 .91	13.42 .19	55.23 1.45	15.34 .14	33.74 .13	20.52 .17	7.61 .13
18.2	10.53 - .18	54.12 + .95	13.22 - .24	53.72 -1.50	15.20 - .18	33.61 - .18	20.33 - .22	7.48 - .17
28.2	10.35 - .23	55.07 + .94	12.96 - .31	52.24 -1.44	14.99 - .24	33.40 - .20	20.08 - .26	7.28 - .19
Nov. 4.5	13.43 + .14	48.40 - .46	17.16 + .25	57.14 + .45	18.37 + .20	36.56 + .21	23.88 + .23	9.92 + .19
14.5	13.56 .11	48.02 .31	17.37 .19	57.49 + .24	18.55 .16	36.76 .20	24.11 .23	10.11 .18
24.5	13.65 + .09	47.78 - .15	17.54 + .15	57.62 - .01	18.71 + .14	36.95 + .16	24.33 + .21	10.28 + .15
Dec. 4.5	13.74 .06	47.72 + .03	17.09 .12	57.44 .29	18.84 .12	37.10 .12	24.52 .16	10.42 .12
14.4	13.80 + .01	47.84 .21	17.81 + .05	57.03 .53	18.95 .06	37.21 .07	24.66 .10	10.53 .07
24.4	13.77 - .03	48.14 .38	17.81 - .02	56.40 .70	18.97 + .01	37.25 + .02	24.72 + .05	10.57 + .02
34.4	13.73 - .05	48.60 + .53	17.75 - .08	55.46 - .84	18.96 - .02	37.25 - .01	24.74 .00	10.57 - .01



APPARENT RIGHT ASCENSIONS AND APPROXIMATE NORTH POLAR DISTANCES,  
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Mean Solar Date.	$\tau$ Orionis.	Groombr. 944.	$\chi$ Aurigæ.	$\kappa$ Orionis.	$\nu$ Aurigæ.	$\delta$ Doradus.	$\beta$ Aurigæ.	$\theta$ Aurigæ.
	96° 58'	4° 52'	57° 54'	99° 43'	50° 53'	155° 47'	45° 4'	52° 48'
	<sub>h m</sub> 5 11	<sub>h m</sub> 5 24	<sub>h m</sub> 5 25	<sub>h m</sub> 5 42	<sub>h m</sub> 5 43	<sub>h m</sub> 5 44	<sub>h m</sub> 5 50	<sub>h m</sub> 5 51
(Dec. 30.4)	<sup>s</sup> 57.56 + .02	<sup>s</sup> 58.89 - .17	<sup>s</sup> 9.45 + .06	<sup>s</sup> 14.52 + .05	<sup>s</sup> 25.69 + .08	<sup>s</sup> 37.22 - .14	<sup>s</sup> 59.87 + .11	<sup>s</sup> 47.38 + .10
Jan. 9.4	57.56 - .03	58.51 .67	9.49 .00	14.55 - .01	25.74 + .01	37.04 .24	59.94 + .02	47.45 + .02
19.4	57.52 .09	57.54 1.24	9.46 - .07	14.52 .07	25.72 - .07	36.77 .33	59.92 - .07	47.44 - .04
29.4	57.41 .12	56.01 1.62	9.35 .11	14.43 .10	25.61 .11	36.41 .41	59.81 .12	47.35 .10
Feb. 8.3	57.29 .13	54.28 1.87	9.24 .13	14.32 .12	25.50 .13	35.97 .47	59.69 .15	47.25 .12
18.3	57.16 - .17	52.28 -2.22	9.09 - .18	14.20 - .16	25.35 - .19	35.48 - .52	59.53 - .22	47.11 - .19
28.3	56.96 .20	49.81 2.45	8.87 .23	14.01 .19	25.11 .24	34.95 .55	59.28 .26	46.89 .23
Mar. 10.3	56.77 .18	47.35 2.40	8.66 .20	13.82 .18	24.88 .22	34.38 .57	59.02 .25	46.66 .21
20.2	56.60 - .16	44.99 -2.26	8.47 - .17	13.64 - .17	24.67 - .19	33.81 - .57	58.78 - .25	46.46 - .22
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Nov. 24.5	59.87 + .17	73.56 +1.60	12.52 + .22	16.67 + .19	28.84 + .26	37.10 + .20	63.12 + .38	50.40 + .35
Dec. 4.5	60.03 .13	74.95 1.16	12.72 .18	16.86 .15	29.09 .22	37.28 .13	63.45 .28	50.71 .26
14.5	60.14 + .08	75.91 + .58	12.90 .12	17.00 .10	29.30 .15	37.37 + .03	63.69 .17	50.93 .16
24.5	60.19 .00	76.14 - .01	12.98 + .05	17.07 + .05	29.41 .09	37.36 - .07	63.81 .10	51.05 .10
34.4	60.16 - .07	75.88 - .55	12.99 - .04	17.09 - .01	29.47 + .03	37.24 - .17	63.89 + .05	51.13 + .04
Mean Solar Date.	$\eta$ Geminor.	$\psi^1$ Aurigæ.	$\nu$ Geminor.	$\chi$ Draconis, S.P.	$\varepsilon$ Geminor.	$\psi^5$ Aurigæ.	$\theta$ Geminor.	$\zeta$ Mensæ.
	67° 28'	40° 39'	69° 43'	342° 41'	64° 45'	46° 18'	55° 54'	170° 41'
	<sub>h m</sub> 6 7	<sub>h m</sub> 6 15	<sub>h m</sub> 6 22	<sub>h m</sub> 6 23	<sub>h m</sub> 6 36	<sub>h m</sub> 6 38	<sub>h m</sub> 6 45	<sub>h m</sub> 6 49
(Dec. 30.5)	<sup>s</sup> 51.36 + .10	<sup>s</sup> 56.51 + .14	<sup>s</sup> 3.32 + .11	<sup>s</sup> 5.16 + .02	<sup>s</sup> 46.44 + .12	<sup>s</sup> 21.23 + .16	<sup>s</sup> 7.27 + .16	<sup>s</sup> 53.45 - .12
Jan. 9.5	51.44 + .04	56.61 + .05	3.41 + .05	5.25 .16	46.55 + .07	21.36 + .08	7.40 + .08	53.18 .38
19.4	51.44 - .03	56.61 - .05	3.44 - .01	5.47 .30	46.50 .00	21.40 - .01	7.45 .00	52.69 .61
29.4	51.39 .07	56.51 .10	3.40 .06	5.86 .44	46.55 - .05	21.36 .06	7.42 - .04	51.98 .86
Feb. 8.4	51.31 .09	56.42 .13	3.33 .08	6.35 .53	46.51 .07	21.29 .10	7.38 .07	50.99 1.06
18.4	51.20 - .15	56.26 - .22	3.23 - .14	6.92 + .62	46.42 - .14	21.17 - .18	7.28 - .15	49.83 -1.20
28.3	51.02 .19	56.00 .27	3.06 .18	7.60 .71	46.25 .16	20.95 .21	7.10 .10	48.60 1.32
Mar. 10.3	50.83 .18	55.73 .26	2.88 .17	8.34 .75	46.07 .17	20.72 .22	6.91 .19	47.20 1.45
20.3	50.66 .18	55.43 .27	2.73 .18	9.10 .77	45.90 .19	20.50 .23	6.73 .21	45.68 1.50
30.3	50.47 .19	55.19 .31	2.52 .20	9.87 .77	45.69 .21	20.25 .26	6.50 .23	44.19 1.49
Apr. 9.2	50.27 - .20	54.87 - .33	2.31 - .21	10.63 + .75	45.47 - .23	19.98 - .28	6.28 - .22	42.70 -1.48
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Dec. 4.6	54.26 + .25	60.17 + .33	6.13 + .26	4.66 - .33	49.27 + .28	24.57 + .33	10.32 + .29	48.50 + .53
14.5	54.46 .16	60.45 .21	6.35 .17	4.38 .21	49.59 .19	24.86 .23	10.59 .20	48.99 .32
24.5	54.58 .09	60.62 .12	6.49 .09	4.24 - .07	49.73 .11	25.05 .16	10.77 .15	49.20 + .13
34.5	54.65 + .04	60.70 + .02	6.57 + .04	4.25 + .08	49.81 + .06	25.18 + .09	10.90 + .09	49.22 - .10

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Mean Solar Date.	ζ Geminor.	63 Aurigæ.	25 Camelop.	γ <sup>2</sup> Volantis.	β Can. Min.	26 Lynceis.	Groombr. 1374.	ω <sup>1</sup> Caneri.
	69° 16' h m 6 57	50° 29' h m 7 3	7° 22' h m 7 6	160° 19' h m 7 9	81° 29' h m 7 20	42° 8' h m 7 46	15° 46' h m 7 46	64° 17' h m 7 53
(Dec. 30.5)	<sup>s</sup> 12.52 + .16	<sup>s</sup> 39.15 + .18	<sup>s</sup> 36.79 + .73	<sup>s</sup> 48.55 + .05	<sup>s</sup> 50.52 + .16	<sup>s</sup> 14.25 + .27	<sup>s</sup> 16.00 + .51	<sup>s</sup> 53.37 + .20
Jan. 9.5	12.63 .08	39.31 .11	37.31 + .30	48.55 - .07	50.66 .10	14.48 .17	16.41 .31	53.57 .15
19.5	12.70 + .02	39.38 + .02	37.39 - .11	48.42 .19	50.74 + .04	14.61 .08	16.60 + .10	53.68 .08
29.5	12.70 - .03	39.36 - .03	37.09 .40	48.19 .32	50.74 .00	14.65 + .02	16.62 - .03	53.73 + .03
Feb. 8.4	12.67 .05	39.34 .06	36.59 .67	47.80 .44	50.73 - .03	14.66 - .03	16.57 .16	53.75 .00
18.4	12.50 - .12	39.24 - .14	35.77 -1.04	47.34 - .51	50.68 - .10	14.61 - .13	16.34 - .37	53.73 - .08
28.4	12.46 .16	39.06 .19	34.52 1.29	46.80 .59	50.55 .14	14.44 .19	15.86 .51	53.61 .13
Mar. 10.3	12.31 .16	38.87 .20	33.17 1.38	46.18 .64	50.40 .14	14.25 .20	15.34 .56	53.48 .14
20.3	12.14 .18	38.67 .22	31.75 1.51	45.52 .67	50.27 .16	14.04 .24	14.76 .65	53.35 .16
30.3	11.95 .20	38.43 .24	30.12 1.63	44.85 .08	50.09 .19	13.78 .27	14.05 .74	53.16 .20
Apr. 9.3	11.76 - .20	38.19 - .25	28.49 -1.65	44.18 - .69	49.91 - .19	13.50 - .27	13.31 - .77	52.96 - .20
19.2	11.56 - .19	37.94 - .25	26.84 -1.60	43.49 - .69	49.72 - .18	13.24 - .24	12.55 - .75	52.77 - .17
Dec. 4.6	15.24 + .21	42.26 + .31	45.60 +1.55	47.61 + .38	52.95 + .29	17.35 + .38	20.68 + .81	55.98 + .31
14.6	15.45 .20	42.53 .24	46.93 1.13	47.94 .26	53.20 .22	17.70 .32	21.44 .67	56.28 .26
24.6	15.64 .18	42.76 .19	47.84 .79	48.16 + .13	53.38 .17	18.02 .29	22.04 .55	56.51 .22
34.5	15.79 + .13	42.92 + .14	48.47 + .47	48.23 .00	53.53 + .13	18.29 + .24	22.53 + .44	56.71 + .18
Mean Solar Date.	ζ <sup>1</sup> Caneri.	β Caneri.	30 Mono- cerotis.	θ Chamæ- leontis.	σ Hydræ.	γ Caneri.	σ <sup>2</sup> Caneri, (mean).	θ Hydri.
	72° 0' h m 8 5	80° 27' h m 8 10	93° 32' h m 9 19	167° 6' h m 8 24	88° 15' h m 8 32	68° 7' h m 8 36	58° 59' h m 8 47	87° 12' h m 9 8
(Dec. 30.6)	<sup>s</sup> 32.23 + .21	<sup>s</sup> 12.26 + .21	<sup>s</sup> 50.86 + .21	<sup>s</sup> 13.69 + .35	<sup>s</sup> 40.57 + .22	<sup>s</sup> 32.95 + .24	<sup>s</sup> 8.39 + .27	<sup>s</sup> 18.50 + .26
Jan. 9.5	32.43 .15	12.45 .15	51.05 .15	13.97 + .20	40.77 .17	33.17 .19	8.64 .21	18.74 .20
19.5	32.54 .08	12.57 .08	51.17 .09	14.08 .00	40.91 .10	33.33 .12	8.82 .14	18.91 .14
29.5	32.60 .04	12.63 .04	51.23 .04	13.98 - .20	40.98 .06	33.41 .08	8.93 .10	19.02 .10
Feb. 8.5	32.64 + .01	12.66 + .01	51.26 + .01	13.69 .36	41.05 + .03	33.49 + .04	9.02 + .05	19.11 + .07
18.4	32.63 - .06	12.65 - .06	51.25 - .05	13.26 - .56	41.05 - .04	33.50 - .03	9.04 - .03	19.15 - .01
28.4	32.52 .11	12.55 .11	51.17 .10	12.69 .65	40.98 .09	33.41 .09	8.97 .08	19.12 .06
Mar. 10.4	32.41 .12	12.44 .12	51.06 .11	11.94 .80	40.88 .10	33.32 .10	8.88 .10	19.05 .07
20.4	32.28 .15	12.32 .14	50.94 .14	11.10 .87	40.78 .13	33.21 .14	8.77 .14	18.97 .10
30.3	32.11 .18	12.16 .18	50.79 .17	10.22 .93	40.64 .16	33.08 .17	8.61 .18	18.84 .14
Apr. 9.3	31.93 - .18	11.99 - .18	50.62 - .17	9.26 - .99	40.47 - .17	32.89 - .18	8.42 - .19	18.69 - .15
19.3	31.76 .16	11.83 .16	50.45 .16	8.24 1.02	40.30 .15	32.72 .17	8.23 .18	18.54 .14
29.3	31.60 .15	11.67 .14	50.30 .14	7.23 .99	40.16 .14	32.57 .16	8.06 .17	18.41 .14
May 9.2	31.46 - .14	11.53 - .14	50.16 - .14	6.26 - .95	40.01 - .14	32.42 - .16	7.89 - .18	18.26 - .15



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FOR TRANSIT AT WASHINGTON.

Mean Solar Date.	$\beta$ Argus.	$\alpha$ Lyncis.	10 Leonis Minoris.	$\sigma$ Leonis.	$\zeta$ Chamæ- leontis.	19 Leonis Minoris.	$\pi$ Leonis.	$\lambda$ Ursæ Majoris.
	159° 14'	55° 7'	53° 5'	79° 35'	170° 25'	48° 23'	81° 24'	46° 30'
	<sub>h m</sub> 9 11	<sub>h m</sub> 9 13	<sub>h m</sub> 9 27	<sub>h m</sub> 9 34	<sub>h m</sub> 9 37	<sub>h m</sub> 9 50	<sub>h m</sub> 9 54	<sub>h m</sub> 10 10
(Dec. 30.6)	<sup>s</sup> 58.69 + .41	<sup>s</sup> 57.48 + .31	<sup>s</sup> 5.17 + .30	<sup>s</sup> 56.10 + .28	<sup>s</sup> 24.70 + .89	<sup>s</sup> 32.77 + .35	<sup>s</sup> 3.48 + .30	<sup>s</sup> 3.90 + .39
Jan. 9.6	59.06 .30	57.77 .24	5.47 .26	56.36 .23	25.49 .68	33.11 .30	3.76 .24	4.27 .32
19.6	59.30 .17	57.98 .17	5.70 .20	56.54 .16	26.07 .44	33.38 .23	3.97 .18	4.56 .25
29.5	59.42 + .04	58.13 .13	5.87 .15	56.70 .13	26.37 + .17	33.57 .18	4.13 .14	4.78 .21
Feb. 8.5	59.41 - .06	58.24 + .08	6.00 .10	56.82 .09	26.41 - .04	33.76 .13	4.27 .11	4.98 .16
18.5	59.32 - .16	58.30 .00	6.07 + .01	56.90 + .02	26.29 - .24	33.86 + .04	4.36 + .04	5.11 + .07
28.4	59.11 .28	58.26 - .06	6.04 - .05	56.88 - .03	25.95 .48	33.85 - .02	4.36 - .01	5.13 .00
Mar. 10.4	58.78 .37	58.17 .08	5.99 .07	56.84 .05	25.34 .65	33.81 .05	4.34 .03	5.12 - .03
20.4	58.38 .42	58.10 .13	5.91 .12	56.79 .08	24.56 .83	33.75 .11	4.31 .07	5.08 .09
30.4	57.94 .48	57.94 .18	5.76 .17	56.68 .13	23.69 .95	33.62 .17	4.21 .11	4.95 .15
Apr. 9.3	57.43 - .54	57.76 - .19	5.58 - .19	56.54 - .14	22.67 -1.11	33.44 - .19	4.09 - .13	4.78 - .18
19.3	56.87 .56	57.57 .18	5.39 .18	56.40 .14	21.49 1.20	33.25 .19	3.96 .13	4.60 .18
29.3	56.32 .56	57.39 .18	5.22 .19	56.27 .14	20.27 1.22	33.06 .20	3.83 .13	4.42 .20
May 9.3	55.77 .56	57.21 .19	5.03 .20	56.12 .15	19.06 1.25	32.85 .22	3.70 .15	4.20 .22
19.2	55.19 - .56	57.01 - .16	4.82 - .17	55.97 - .13	17.79 -1.28	32.63 - .19	3.54 - .13	3.97 - .21
Mean Solar Date.	$\mu$ Hydri.	$\beta$ Leonis Minoris.	$\alpha$ Antlia.	$\beta$ Octantis, S. P.	41 Leonis Minoris.	$\delta^2$ Chamæ- leontis.	46 Leonis Minoris.	Groombr. 1706.
	106° 14'	52° 42'	120° 28'	188° 0'	66° 12'	169° 55'	55° 9'	11° 36'
	<sub>h m</sub> 10 20	<sub>h m</sub> 10 21	<sub>h m</sub> 10 21	<sub>h m</sub> 10 33	<sub>h m</sub> 10 37	<sub>h m</sub> 10 44	<sub>h m</sub> 10 46	<sub>h m</sub> 10 50
Jan. 19.6	<sup>s</sup> 28.16 + .20	<sup>s</sup> 9.11 + .24	<sup>s</sup> 50.29 + .21	<sup>s</sup> 52.98 - .73	<sup>s</sup> 5.19 + .23	<sup>s</sup> 48.17 + .80	<sup>s</sup> 47.97 + .26	<sup>s</sup> 37.81 + .88
29.6	28.33 .16	9.32 .21	50.46 .16	52.37 .48	5.40 .20	48.86 .58	48.21 .23	38.65 .75
Feb. 8.5	28.49 .13	9.53 .17	50.62 .13	52.02 - .23	5.60 .16	49.32 .40	48.44 .19	39.34 .57
18.5	28.60 .06	9.67 .08	50.73 + .06	51.92 + .01	5.74 .10	49.65 + .21	48.60 .11	39.79 .31
28.5	28.63 + .01	9.70 + .01	50.76 .00	52.03 .23	5.79 + .04	49.75 - .04	48.67 .06	39.96 + .12
Mar. 10.5	28.62 - .02	9.70 - .01	50.74 - .03	52.39 + .47	5.82 .00	49.57 - .25	48.71 + .02	40.01 - .04
20.4	28.60 .05	9.69 .07	50.72 .06	52.97 .69	5.81 - .04	49.25 .39	48.71 - .03	39.87 .28
30.4	28.53 .09	9.58 .13	50.63 .11	53.76 .90	5.75 .09	48.80 .55	48.64 .09	39.45 .50
Apr. 9.4	28.42 .12	9.44 .15	50.50 .13	54.77 1.09	5.65 .11	48.15 .74	48.53 .12	38.86 .62
19.4	28.30 .12	9.30 .16	50.36 .14	55.94 1.25	5.53 .12	47.31 .87	48.41 .13	38.20 .73
29.4	28.19 - .12	9.14 - .17	50.22 - .15	57.27 +1.39	5.42 - .14	46.41 - .93	48.27 - .15	37.41 - .90
May 9.3	28.05 .15	8.95 .20	50.08 .17	58.72 1.50	5.28 .16	45.47 1.02	48.11 .17	36.38 .96
19.3	27.89 .14	8.75 .18	49.89 .17	60.27 1.59	5.12 .15	44.38 1.12	47.92 .17	35.51 .89
29.3	27.77 .11	8.59 .15	49.73 .14	61.89 1.63	4.98 .13	43.24 1.12	47.77 .15	34.60 .90
June 8.2	27.67 - .09	8.45 - .14	49.60 - .12	63.51 +1.61	4.87 - .11	42.15 -1.07	47.63 - .13	33.68 - .90

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Mean Solar Date.	$\eta$ Octantis.			$p^3$ Leonis.			$\psi$ Urs. Maj.			$\nu$ Urs. Maj.			$\xi$ Hydræ.			$\chi$ Urs. Maj.			$\pi$ Virginis.			$\epsilon$ Corvi.		
	173° 58'			87° 25'			44° 52'			56° 16'			121° 12'			41° 34'			82° 44'			111° 58'		
	$\begin{smallmatrix} h & m \\ 11 & 0 \end{smallmatrix}$			$\begin{smallmatrix} h & m \\ 11 & 0 \end{smallmatrix}$			$\begin{smallmatrix} h & m \\ 11 & 3 \end{smallmatrix}$			$\begin{smallmatrix} h & m \\ 11 & 12 \end{smallmatrix}$			$\begin{smallmatrix} h & m \\ 11 & 27 \end{smallmatrix}$			$\begin{smallmatrix} h & m \\ 11 & 39 \end{smallmatrix}$			$\begin{smallmatrix} h & m \\ 11 & 54 \end{smallmatrix}$			$\begin{smallmatrix} h & m \\ 12 & 4 \end{smallmatrix}$		
Feb. 8.6	<sup>s</sup> 19.85	+	.76	<sup>s</sup> 58.46	+	.17	<sup>s</sup> 7.45	+	.24	<sup>s</sup> 11.88	+	.21	<sup>s</sup> 17.53	+	.21	<sup>s</sup> 54.46	+	.28	<sup>s</sup> 54.75	+	.22	<sup>s</sup> 8.99	+	.24
18.6	20.49	.50		58.61	.12		7.65	.15		12.07	.14		17.73	.15		54.71	.20		54.95	.17		9.20	.19	
28.5	20.78	+	.07	58.69	.06		7.73	.08		12.16	.08		17.83	.09		54.87	.14		55.08	.12		9.34	.13	
Mar. 10.5	20.62	-	.29	58.73	+	.03	7.80	+	.04	12.23	+	.05	17.90	.05		54.98	.09		55.18	.09		9.45	.10	
20.5	20.19	.53		58.75	-	.01	7.81	-	.02	12.27	.00		17.95	+	.02	55.05	+	.02	55.27	+	.05	9.54	.06	
30.4	19.57	-	.80	58.72	-	.05	7.75	-	.09	12.23	-	.06	17.93	-	.03	55.03	-	.05	55.29	.00		9.58	+	.02
Apr. 9.4	18.60	1.13		58.66	.08		7.63	.13		12.14	.10		17.89	.07		54.94	.10		55.26	-	.03	9.57	-	.02
19.4	17.30	1.36		58.57	.09		7.49	.15		12.04	.12		17.80	.08		54.83	.13		55.22	.04		9.53	.04	
29.4	15.87	1.47		58.48	.10		7.34	.18		11.93	.13		17.73	.10		54.70	.17		55.18	.06		9.50	.06	
May 9.3	14.36	1.65		58.37	.12		7.13	.20		11.79	.15		17.61	.13		54.50	.20		55.10	.09		9.43	.10	
19.3	12.57	-1.84		58.24	-	.12	6.91	-	.21	11.61	-	.16	17.45	-	.14	54.28	-	.21	54.99	-	.10	9.32	-	.11
29.3	10.64	1.89		58.13	.11		6.73	.20		11.46	.15		17.32	.13		54.08	.21		54.90	.10		9.22	.11	
June 8.3	8.80	1.85		58.04	.10		6.54	.19		11.33	.14		17.20	.13		53.88	.20		54.81	.10		9.13	.12	
18.2	6.90	-1.85		57.94	-	.10	6.36	-	.18	11.20	-	.13	17.08	-	.12	53.68	-	.20	54.71	-	.10	8.99	-	.12
Mean Solar Date.	2 Can. Ven.			6 Urs. Min.			$\delta^2$ Corvi.			$\beta$ Can. Ven.			$\gamma$ Virginis, (mean.)			31 Cor. Bor.			$\gamma$ Cassiop., S. P.			43 Cephei, S. P.		
	48° 41'			1° 39'			105° 52'			48° 0'			90° 48'			61° 49'			330° 5'			355° 38'		
	$\begin{smallmatrix} h & m \\ 12 & 10 \end{smallmatrix}$			$\begin{smallmatrix} h & m \\ 12 & 13 \end{smallmatrix}$			$\begin{smallmatrix} h & m \\ 12 & 23 \end{smallmatrix}$			$\begin{smallmatrix} h & m \\ 12 & 28 \end{smallmatrix}$			$\begin{smallmatrix} h & m \\ 12 & 35 \end{smallmatrix}$			$\begin{smallmatrix} h & m \\ 12 & 46 \end{smallmatrix}$			$\begin{smallmatrix} h & m \\ 12 & 49 \end{smallmatrix}$			$\begin{smallmatrix} h & m \\ 12 & 52 \end{smallmatrix}$		
Feb. 8.6	<sup>s</sup> 17.69	+	.29	<sup>s</sup> 96.62	+	+5.36	<sup>s</sup> 50.99	+	.25	<sup>s</sup> 12.99	+	.30	<sup>s</sup> 45.95	+	.26	<sup>s</sup> 1.80	+	.28	<sup>s</sup> 39.86	-	.31	<sup>s</sup> 56.30	-	2.35
18.6	17.96	.22		101.03	4.23		51.23	.20		13.27	.24		46.19	.21		2.06	.23		39.58	.25		54.15	1.95	
28.6	18.12	.16		105.05	3.36		51.39	.15		13.45	.18		46.35	.15		2.24	.18		39.37	.19		52.41	1.53	
Mar. 10.5	18.28	.12		107.82	1.95		51.51	.12		13.63	.14		46.49	.13		2.41	.15		39.21	.11		51.10	1.06	
20.5	18.38	+	.07	108.96	+	.24	51.63	.08		13.75	.09		46.61	.09		2.55	.10		39.15	-	.03	50.30	-	.53
30.5	18.40	.00		108.26	-1.24		51.69	+	.04	13.80	+	.02	46.68	+	.05	2.63	+	.05	39.15	+	.05	50.04	+	.03
Apr. 9.5	18.37	-	.04	106.46	2.32		51.70	.00		13.79	-	.03	46.69	+	.01	2.65	+	.01	39.25	.14		50.36	.56	
19.4	18.33	.07		103.66	3.56		51.68	-	.01	13.76	.06		46.69	-	.01	2.65	-	.01	39.43	.22		51.16	1.07	
29.4	18.24	.11		99.34	4.92		51.67	.04		13.68	.10		46.68	.03		2.62	.05		39.68	.30		52.50	1.56	
May 9.4	18.10	.15		93.77	5.76		51.62	.07		13.56	.13		46.65	.07		2.56	.08		40.02	.37		54.28	1.96	
19.4	17.94	-	.16	87.78	-6.22		51.52	-	.09	13.40	-	.14	46.56	-	.08	2.45	-	.10	40.42	+	.43	56.43	+	2.32
29.3	17.80	.16		81.33	6.84		51.45	.09		13.26	.16		46.49	.08		2.36	.11		40.88	.47		58.93	2.61	
June 8.3	17.63	.18		74.07	7.36		51.37	.10		13.10	.18		46.42	.10		2.26	.13		41.35	.51		61.64	2.80	
18.3	17.43	.19		66.55	7.28		51.24	.12		12.89	.19		46.29	.11		2.10	.14		41.89	.57		64.52	2.94	
28.2	17.25	-	.18	59.46	-6.82		51.12	-	.12	12.71	-	.19	46.18	-	.11	1.96	-	.14	42.45	+	.62	67.56	+	3.04



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Mean Solar Date.	$\delta$ Muscæ.	$\epsilon$ Virginis.	$\zeta$ Can. Ven.	$\kappa$ Octantis.	B. A. C. 4536.	$m$ Virginis.	$\theta$ Apodis.	$\pi$ Hydræ.
	$160^{\circ} 55'$ h m 12 54	$78^{\circ} 25'$ h m 12 56	$48^{\circ} 49'$ h m 13 12	$175^{\circ} 11'$ h m 13 22	$52^{\circ} 13'$ h m 13 29	$98^{\circ} 7'$ h m 13 35	$166^{\circ} 14'$ h m 13 54	$116^{\circ} 7'$ h m 13 59
	$12^{\circ} 54'$ s	$12^{\circ} 56'$ s	$13^{\circ} 12'$ s	$13^{\circ} 22'$ s	$13^{\circ} 29'$ s	$13^{\circ} 35'$ s	$13^{\circ} 54'$ s	$13^{\circ} 59'$ s
Feb. 8.7	19.35 + .64	22.99 + .28	19.27 + .36	29.30 + 2.68	35.74 + .36	30.12 + .32	3.66 + 1.11	44.66 + .37
18.6	19.98 .55	23.25 .22	19.59 .28	31.73 2.24	36.05 .29	30.41 .25	4.67 .93	44.99 .29
28.6	20.44 .42	23.43 .17	19.83 .23	33.74 1.81	36.30 .24	30.61 .20	5.50 .78	45.24 .24
Mar. 10.6	20.81 .34	23.60 .14	20.04 .20	35.34 1.49	36.52 .21	30.81 .19	6.22 .69	45.47 .23
20.6	21.11 .26	23.74 .11	20.23 .15	36.71 1.21	36.72 .16	31.00 .15	6.88 .60	45.70 .20
30.5	21.34 + .15	23.81 + .07	20.32 + .08	37.76 + .81	36.83 + .10	31.12 + .10	7.42 + .45	45.87 + .15
Apr. 9.5	21.42 + .03	23.86 .04	20.38 + .03	38.32 + .34	36.90 .06	31.20 .07	7.78 .29	45.99 .11
19.5	21.40 - .04	23.88 + .01	20.39 .00	38.41 - .02	36.95 + .02	31.26 .06	7.99 .18	46.08 .09
29.5	21.32 .11	23.88 - .02	20.37 - .05	38.29 .31	36.96 - .02	31.32 + .03	8.14 + .08	46.16 .06
May 9.4	21.17 .22	23.85 .05	20.31 .10	37.83 .75	36.92 .06	31.33 - .02	8.16 - .09	46.21 + .02
19.4	20.88 - .31	23.77 - .07	20.19 - .12	36.81 - 1.17	36.83 - .09	31.29 - .03	7.96 - .24	46.20 - .01
29.4	20.54 .35	23.71 .08	20.08 .14	35.49 1.39	36.74 .11	31.26 .04	7.67 .31	46.19 .02
June 8.4	20.20 .41	23.64 .10	19.95 .16	34.06 1.64	36.63 .14	31.23 .06	7.34 .43	46.17 .05
18.3	19.75 .49	23.51 .11	19.76 .18	32.25 1.97	36.47 .15	31.14 .09	6.84 .57	46.08 .09
28.3	19.24 .54	23.40 .11	19.58 .19	30.12 2.17	36.31 .16	31.04 .09	6.22 .64	45.98 .10
July 8.3	18.69 - .58	23.29 - .11	19.41 - .19	27.90 - 2.21	36.15 - .18	30.95 - .10	5.56 - .68	45.88 - .11
18.2	18.08 - .62	23.18 - .11	19.21 - .19	25.71 - 2.18	35.97 - .19	30.83 - .12	4.86 - .72	45.75 - .13
Mean Solar Date.	$\delta$ Bootis.	$\kappa$ Virginis.	$\delta$ Octantis.	4 Urs. Min.	$\lambda$ Bootis.	$\lambda$ Virginis.	$\alpha$ Apodis.	$\mu$ Hydri, S. P.
	$64^{\circ} 21'$ h m 14 5	$99^{\circ} 44'$ h m 14 6	$173^{\circ} 8'$ h m 14 8	$11^{\circ} 54'$ h m 14 9	$43^{\circ} 22'$ h m 14 11	$102^{\circ} 50'$ h m 14 12	$168^{\circ} 33'$ h m 14 33	$190^{\circ} 23'$ h m 14 34
	$14^{\circ} 5'$ s	$14^{\circ} 6'$ s	$14^{\circ} 8'$ s	$14^{\circ} 9'$ s	$14^{\circ} 11'$ s	$14^{\circ} 12'$ s	$14^{\circ} 33'$ s	$14^{\circ} 34'$ s
Feb. 18.7	5.41 + .27	41.30 + .26	30.06 + 1.79	20.23 + .99	57.51 + .32	48.79 + .24	29.87 + 1.16	5.38 - .96
28.6	5.66 .24	41.54 .24	31.75 1.59	21.17 .90	57.82 .30	49.02 .23	30.98 1.07	4.44 .92
Mar. 10.6	5.89 .22	41.75 .22	33.23 1.43	22.01 .76	58.11 .28	49.25 .22	31.99 .99	3.54 .86
20.6	6.10 .18	41.96 .19	34.60 1.24	22.69 .57	58.37 .23	49.47 .19	32.95 .89	2.72 .80
30.6	6.26 .14	42.13 .15	35.73 .98	23.15 .39	58.55 .16	49.64 .15	33.77 .72	1.95 .68
Apr. 9.5	6.36 + .10	42.24 + .11	36.53 + .65	23.46 + .24	58.69 + .11	49.76 + .12	34.40 + .55	1.35 - .50
19.5	6.45 .07	42.33 .09	37.03 .42	23.62 + .04	58.78 .07	49.86 .10	34.85 .42	0.95 .31
29.5	6.51 + .03	42.42 .06	37.28 + .21	23.54 - .18	58.83 + .02	49.95 .07	35.22 .28	0.72 - .13
May 9.5	6.52 .00	42.47 + .02	37.46 - .13	23.26 .34	58.81 - .03	50.01 + .03	35.43 + .08	0.69 + .07
19.4	6.49 - .04	42.45 .00	37.12 .43	22.86 .48	58.75 .07	50.00 .00	35.37 - .11	0.87 .28
29.4	6.45 - .05	42.45 - .01	36.60 - .62	22.31 - .63	58.67 - .10	50.00 - .01	35.20 - .22	1.24 + .46
June 8.4	6.40 .08	42.43 .04	35.91 .86	21.59 .78	58.56 .15	49.99 .04	34.95 .37	1.78 .63
18.4	6.29 .11	42.36 .08	34.90 1.13	20.76 .85	58.37 .18	49.92 .07	34.47 .55	2.50 .79
28.3	6.17 .12	42.27 .09	33.65 1.30	19.90 .90	58.18 .19	49.84 .08	33.83 .68	3.36 .92
July 8.3	6.06 .13	42.19 .10	32.29 1.39	18.95 .98	57.99 .21	49.76 .10	33.12 .74	4.35 1.05
18.3	5.92 - .14	42.08 - .11	30.86 - 1.50	17.93 - 1.03	57.75 - .24	49.64 - .13	32.35 - .85	5.46 + 1.13
28.2	5.79 - .14	41.98 - .11	29.28 - 1.64	16.91 - 1.02	57.51 - .26	49.50 - .15	31.45 - .96	6.61 + 1.15

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Mean Solar Date.	33 Bootis.	47 Cephei, S. P.	$\gamma$ Scorpil.	$\delta$ Bootis.	$\rho$ Octantis.	$\beta$ Cor.Bor.	$\gamma$ Camelop., S. P.	$\delta^1$ Apodis.
	$45^{\circ} 5'$ h m	$348^{\circ} 57'$ h m	$114^{\circ} 49'$ h m	$56^{\circ} 15'$ h m	$174^{\circ} 4'$ h m	$60^{\circ} 29'$ h m	$340^{\circ} 58'$ h m	$168^{\circ} 24'$ h m
	14 34	14 50	14 57	15 10	15 16	15 23	15 38	16 3
Mar. 30.6	$31.29 + .19$	$34.58 - .50$	$16.46 + .20$	$49.38 + .18$	$48.85 + 1.49$	$2.50 + .20$	$2.40 - .41$	$3.62 + .96$
Apr. 9.6	$31.45 .15$	$34.18 .30$	$16.64 .17$	$49.55 .17$	$50.25 1.32$	$2.68 .18$	$2.05 .29$	$4.54 .91$
19.6	$31.57 .10$	$33.97 - .11$	$16.79 .15$	$49.71 .14$	$51.49 1.15$	$2.84 .15$	$1.83 .16$	$5.41 .84$
29.5	$31.65 + .05$	$33.97 + .11$	$16.95 .13$	$49.83 .10$	$52.56 .90$	$2.98 .11$	$1.73 - .04$	$6.21 .71$
May 9.5	$31.67 .00$	$34.19 .34$	$17.05 .08$	$49.91 .06$	$53.31 .50$	$3.07 .07$	$1.76 + .10$	$6.84 .51$
19.5	$31.63 - .04$	$34.66 + .55$	$17.10 + .05$	$49.94 + .02$	$53.55 + .13$	$3.12 + .03$	$1.92 + .23$	$7.21 + .33$
29.5	$31.59 .07$	$35.29 .72$	$17.15 + .04$	$49.95 - .01$	$53.56 - .10$	$3.15 + .01$	$2.92 .35$	$7.49 .22$
June 8.4	$31.50 .12$	$36.11 .88$	$17.17 .00$	$49.93 .05$	$53.37 .44$	$3.15 - .03$	$2.62 .46$	$7.66 + .02$
18.4	$31.35 .16$	$37.07 1.03$	$17.13 - .05$	$49.85 .08$	$52.70 .84$	$3.09 .07$	$3.15 .56$	$7.55 - .20$
28.4	$31.19 .17$	$38.17 1.15$	$17.07 .07$	$49.74 .11$	$51.69 1.19$	$3.00 .09$	$3.74 .64$	$7.25 .34$
July 8.4	$31.01 - .20$	$39.35 + 1.22$	$17.00 - .09$	$49.63 - .14$	$50.49 - 1.30$	$2.91 - .12$	$4.42 + .71$	$6.88 - .47$
18.3	$30.79 .23$	$40.61 1.27$	$16.89 .12$	$49.48 .17$	$49.11 1.57$	$2.78 .15$	$5.16 .76$	$6.32 .63$
28.3	$30.56 .25$	$41.89 1.29$	$16.76 .14$	$49.29 .20$	$47.35 1.78$	$2.60 .17$	$5.93 .79$	$5.60 .79$
Aug. 7.3	$30.33 .24$	$43.19 1.29$	$16.61 .14$	$49.09 .21$	$45.52 1.83$	$2.42 .18$	$6.73 .80$	$4.74 .86$
17.2	$30.10 .23$	$44.46 1.26$	$16.47 .14$	$48.90 .20$	$43.70 1.84$	$2.24 .19$	$7.53 .80$	$3.88 .89$
27.2	$29.88 - .22$	$45.71 + 1.24$	$16.34 - .13$	$48.72 - .18$	$41.90 - 1.84$	$2.04 - .20$	$8.32 + .78$	$2.98 - .95$
Mean Solar Date.	$\phi$ Herculis.	$\sigma$ Cor. Bor. (mean.)	$\gamma$ Apodis.	$\eta$ Urs.Min.	$\eta$ Ophiuchi.	$\pi$ Herculis.	$\theta$ Ophiuchi.	$\delta$ Aræ.
	$44^{\circ} 45'$ h m	$55^{\circ} 51'$ h m	$168^{\circ} 38'$ h m	$13^{\circ} 59'$ h m	$105^{\circ} 35'$ h m	$53^{\circ} 3'$ h m	$114^{\circ} 53'$ h m	$150^{\circ} 35'$ h m
	16 5	16 10	16 15	16 20	17 3	17 10	17 14	17 20
Apr. 9.6	$6.98 + .25$	$19.92 + .23$	$42.58 + 1.00$	$58.39 + .66$	$42.66 + .22$	$60.26 + .23$	$52.12 + .27$	$36.66 + .50$
19.6	$7.21 .21$	$20.14 .20$	$43.52 .89$	$58.99 .52$	$42.88 .22$	$60.49 .23$	$52.38 .26$	$37.14 .49$
29.6	$7.40 .16$	$20.32 .16$	$44.35 .78$	$59.42 .36$	$43.10 .21$	$60.72 .22$	$52.64 .26$	$37.62 .47$
May 9.6	$7.54 .12$	$20.47 .12$	$45.09 .59$	$59.69 .21$	$43.30 .19$	$60.93 .19$	$52.86 .22$	$38.04 .37$
19.5	$7.62 .07$	$20.55 .08$	$45.52 .40$	$59.84 + .06$	$43.48 .16$	$61.10 .15$	$53.06 .18$	$38.36 .32$
29.5	$7.69 + .03$	$20.63 + .05$	$45.87 + .28$	$59.83 - .10$	$43.64 + .15$	$61.24 + .12$	$53.25 + .17$	$38.68 + .29$
June 8.5	$7.69 - .02$	$20.67 .00$	$46.10 + .08$	$59.64 .26$	$43.78 .11$	$61.33 .07$	$53.43 .13$	$38.95 .20$
18.5	$7.63 .07$	$20.64 - .05$	$46.14 - .15$	$59.32 .39$	$43.85 .06$	$61.37 + .02$	$53.50 .08$	$39.08 .11$
28.4	$7.54 .11$	$20.59 .07$	$45.80 .30$	$58.85 .52$	$43.89 + .03$	$61.37 - .02$	$53.57 .05$	$39.16 + .05$
July 8.4	$7.42 .16$	$20.51 .10$	$45.45 .43$	$58.28 .64$	$43.92 .00$	$61.34 .06$	$53.61 + .02$	$39.19 - .01$
18.4	$7.24 - .20$	$20.38 - .14$	$44.94 - .61$	$57.58 - .74$	$43.89 - .04$	$61.25 - .11$	$53.59 - .04$	$39.12 - .11$
28.3	$7.02 .23$	$20.22 .18$	$44.23 .78$	$56.79 .81$	$43.82 .09$	$61.12 .15$	$53.52 .08$	$38.97 .19$
Aug. 7.3	$6.78 .25$	$20.03 .20$	$43.38 .86$	$55.96 .88$	$43.71 .12$	$60.94 .18$	$53.41 .11$	$38.74 .25$
17.3	$6.53 .27$	$19.83 .21$	$42.51 .90$	$55.03 .94$	$43.59 .14$	$60.75 .21$	$53.29 .14$	$38.48 .28$
27.3	$6.26 .29$	$19.61 .23$	$41.59 .99$	$54.08 .96$	$43.45 .17$	$60.53 .23$	$53.14 .17$	$38.18 .35$
Sept. 6.2	$5.96 - .28$	$19.36 - .23$	$40.52 - 1.02$	$53.13 - .95$	$43.27 - .18$	$60.26 - .24$	$52.93 - .19$	$37.77 - .38$
16.2	$5.69 .25$	$19.14 .22$	$39.53 .93$	$52.18 .93$	$43.08 .18$	$60.02 .25$	$52.75 .19$	$37.40 .37$
26.2	$5.43 .24$	$18.94 .20$	$38.60 .83$	$51.27 .90$	$42.90 .19$	$59.78 .25$	$52.58 .19$	$37.04 .36$
Oct. 6.2	$5.20 - .22$	$18.77 - .18$	$37.74 - .78$	$50.39 - .86$	$42.70 - .19$	$59.54 - .24$	$52.38 - .19$	$36.68 - .34$



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Mean Solar Date.	Groombr. 944, S. P.	ι Herculis.	θ Herculis.	ο Herculis.	λ Sagittarii.	χ Draconis.	ζ Pavonis.	γ Lyrae.
	355° 8' h m 17 24	43° 56' h m 17 36	52° 44' h m 17 52	61° 15' h m 18 3	115° 29' h m 18 20	17° 19' h m 18 23	161° 32' h m 18 29	57° 28' h m 18 54
	s	s	s	s	s	s	s	s
May 19.6	35.06 - .51	12.53 + .18	17.11 + .19	1.42 + .20	48.37 + .25	13.10 + .40	28.80 + .66	36.55 + .27
29.6	34.78 - .05	12.71 .14	17.29 .17	1.61 .18	48.62 .24	13.45 .31	29.40 .58	38.62 .26
June 8.5	34.96 + .40	12.83 .08	17.45 .12	1.79 .14	48.85 .20	13.69 .20	29.95 .46	37.05 .20
18.5	35.59 .86	12.89 + .03	17.52 .07	1.88 .09	49.00 .15	13.83 + .07	30.30 .31	37.20 .15
28.5	36.68 1.30	12.89 - .02	17.57 + .02	1.95 .05	49.12 .11	13.84 - .06	30.57 .24	37.31 .10
July 8.5	38.18 +1.69	12.86 - .07	17.57 - .02	1.98 + .01	49.22 + .07	13.71 - .19	30.77 + .12	37.39 + .06
18.4	40.05 2.02	12.76 .12	17.53 .07	1.96 - .04	49.27 + .02	13.46 .30	30.80 - .04	37.43 + .01
28.4	42.20 2.31	12.62 .17	17.43 .12	1.89 .09	49.25 - .03	13.11 .41	30.70 .17	37.40 - .05
Aug. 7.4	44.68 2.60	12.42 .21	17.29 .16	1.78 .13	49.20 .07	12.64 .52	30.47 .26	37.33 .09
17.4	47.36 2.75	12.19 .24	17.12 .19	1.65 .16	49.12 .10	12.07 .61	30.18 .36	37.22 .13
27.3	50.18 +2.89	11.94 - .27	16.91 - .22	1.48 - .20	49.00 - .15	11.42 - .67	29.76 - .49	37.08 - .18
Sept. 6.3	53.15 3.01	11.64 .30	16.66 .24	1.26 .22	48.81 .18	10.71 .73	29.19 .56	36.87 .21
16.3	56.18 3.03	11.34 .30	16.42 .25	1.05 .22	48.63 .19	9.95 .77	28.63 .58	36.66 .22
26.2	59.20 2.99	11.05 .30	16.16 .25	0.84 .22	48.46 .20	9.16 .79	28.06 .61	36.45 .24
Oct. 6.2	62.15 2.91	10.74 .31	15.91 .26	0.60 .23	48.24 .22	8.37 .77	27.41 .62	36.20 .25
16.2	65.01 +2.81	10.45 - .30	15.66 - .26	0.36 - .24	48.02 - .22	7.60 - .75	26.79 - .59	35.96 - .24
26.2	67.80 +2.70	10.15 - .30	15.40 - .26	0.12 - .24	47.80 - .21	6.90 - .70	26.25 - .51	35.74 - .22
Mean Solar Date.	ι Lyrae.	25 Camelop. S. P.	θ Lyrae.	β Cygni.	β Sagittæ.	δ Cygni.	Groombr. 1374, S. P.	ε Pavonis.
	54° 5' h m 19 3	352° 38' h m 19 6	52° 4' h m 19 12	62° 17' h m 19 26	72° 48' h m 19 35	45° 9' h m 19 41	344° 14' h m 19 46	163° 13' h m 19 47
	s	s	s	s	s	s	s	s
May 29.6	10.40 + .25	22.35 - .69	21.14 + .26	2.92 + .26	50.39 + .27	21.84 + .30	10.28 - .37	9.40 + .80
June 8.6	10.64 .20	21.80 .41	21.39 .21	3.17 .22	50.65 .23	22.11 .25	9.96 .27	10.20 .70
18.6	10.80 .15	21.53 - .13	21.56 .16	3.34 .17	50.83 .18	22.32 .19	9.75 .15	10.92 .02
28.6	10.92 .10	21.55 + .16	21.70 .11	3.50 .13	50.99 .15	22.48 .15	9.67 - .02	11.52 .48
July 8.5	11.01 .06	21.86 .45	21.79 .07	3.62 .09	51.13 .11	22.62 .10	9.72 + .11	11.96 .40
18.5	11.05 + .01	22.44 + .72	21.84 + .02	3.69 + .04	51.23 + .06	22.69 + .04	9.89 + .24	12.23 + .19
28.5	11.03 - .05	23.30 .93	21.81 - .04	3.70 - .01	51.25 + .01	22.69 - .02	10.20 .37	12.33 + .04
Aug. 7.4	10.95 .09	24.39 1.20	21.75 .09	3.66 .05	51.24 - .03	22.64 .07	10.64 .48	12.31 - .07
17.4	10.84 .13	25.69 1.40	21.64 .13	3.60 .09	51.21 .06	22.54 .13	11.15 .56	12.19 .21
27.4	10.70 .18	27.19 1.60	21.50 .17	3.49 .14	51.12 .11	22.40 .18	11.77 .68	11.91 .37
Sept. 6.4	10.48 - .21	28.88 +1.75	21.28 - .21	3.32 - .17	50.97 - .15	22.19 - .22	12.51 + .77	11.44 - .48
16.3	10.26 .22	30.69 1.86	21.06 .23	3.15 .18	50.83 .16	21.95 .24	13.30 .83	10.94 .52
26.3	10.04 .24	32.60 1.95	20.84 .25	2.96 .20	50.67 .18	21.72 .27	14.17 .90	10.42 .63
Oct. 6.3	9.79 .25	34.59 2.01	20.58 .26	2.73 .22	50.47 .20	21.43 .29	15.09 .94	9.69 .72
16.3	9.52 .24	36.61 2.00	20.32 .25	2.50 .21	50.27 .19	21.13 .29	16.05 .96	8.99 .68
26.2	9.30 - .22	38.58 +1.97	20.07 - .23	2.30 - .19	50.09 - .17	20.85 - .28	17.00 + .97	8.34 - .64
Nov. 5.2	9.09 - .20	40.55 +1.94	19.85 - .21	2.12 - .18	49.92 - .16	20.58 - .27	17.98 + .98	7.70 - .63

APPARENT RIGHT ASCENSIONS AND APPROXIMATE NORTH POLAR DISTANCES,  
FOR TRANSIT AT WASHINGTON.

Mean Solar Date.	$\gamma$ Sagittæ.	$\epsilon$ Sagittarii.	$\theta$ Aquilæ.	$\nu^1$ Cygni.	$\alpha$ Delphini.	$\beta$ Pavonis.	$\psi$ Capricor.	$\epsilon$ Cygni.
	$70^\circ 49'$ h m 19 53	$118^\circ 2'$ h m 19 55	$91^\circ 10'$ h m 20 5	$43^\circ 37'$ h m 20 9	$74^\circ 30'$ h m 20 34	$156^\circ 37'$ h m 20 34	$115^\circ 41'$ h m 20 39	$56^\circ 28'$ h m 20 41
June 23.6	36.57 + .18	31.62 + .21	19.47 + .20	60.27 + .20	15.48 + .22	30.17 + .46	13.56 + .25	32.00 + .20
July 8.5	36.73 .13	31.82 .17	19.66 .16	60.44 .15	15.67 .17	30.61 .36	13.80 .21	32.18 .16
18.5	36.83 .08	31.96 .11	19.78 .10	60.55 .08	15.83 .12	30.93 .24	13.99 .15	32.30 .12
28.5	36.88 + .03	32.04 .05	19.86 .05	60.59 + .01	15.91 .07	31.10 .15	14.10 .10	32.39 .07
Aug. 7.5	36.88 - .01	32.07 + .01	19.88 + .01	60.56 - .05	15.96 + .03	31.22 + .08	14.17 .06	32.43 + .02
17.4	36.85 - .05	32.07 - .03	19.89 - .02	60.51 - .09	15.98 - .01	31.26 - .03	14.22 + .01	32.43 - .02
27.4	36.77 .10	32.02 .09	19.85 .07	60.40 .15	15.96 .06	31.16 .17	14.20 - .04	32.40 .07
Sept. 6.4	36.65 .14	31.88 .14	19.73 .11	60.21 .20	15.86 .10	30.92 .25	14.12 .09	32.28 .12
16.4	36.51 .15	31.75 .15	19.62 .13	59.99 .23	15.74 .12	30.65 .31	14.02 .11	32.14 .15
26.3	36.36 .18	31.60 .17	19.50 .15	59.76 .26	15.62 .15	30.32 .36	13.90 .14	32.00 .18
Oct. 6.3	36.16 - .20	31.40 - .20	19.32 - .17	59.48 - .28	15.45 - .17	29.86 - .38	13.73 - .18	31.79 - .21
16.3	35.96 .19	31.20 .19	19.14 .17	59.18 .29	15.27 .18	29.37 .40	13.54 .18	31.57 .21
26.2	35.78 .18	31.02 .18	18.97 .15	58.90 .28	15.10 .17	28.93 .45	13.37 .17	31.37 .21
Nov. 5.2	35.61 .17	30.85 .17	18.82 .15	58.63 .27	14.94 .16	28.46 .47	13.20 .17	31.16 .21
15.2	35.44 .15	30.69 .15	18.68 .14	58.36 .25	14.77 .16	27.98 .44	13.02 .15	30.96 .20
25.2	35.30 - .11	30.54 - .10	18.55 - .11	58.11 - .22	14.61 - .14	27.57 - .37	12.86 - .12	30.76 - .17
Dec. 5.1	35.21 - .07	30.47 - .04	18.47 - .05	57.92 - .17	14.51 - .09	27.26 - .26	12.77 - .08	30.60 - .13
Mean Solar Date.	$\tau$ Cygni.	$\zeta$ Capricor.	$\gamma$ Cygni.	$\lambda^1$ Octantis.	$\zeta$ Chamæ- leontis, S.P.	$\pi^2$ Cygni.	16 Pegasi.	$\pi$ Pegasi.
	$52^\circ 27'$ h m 21 10	$112^\circ 55'$ h m 21 20	$50^\circ 7'$ h m 21 32	$173^\circ 15'$ h m 21 32	$189^\circ 35'$ h m 21 37	$41^\circ 14'$ h m 21 42	$64^\circ 38'$ h m 21 47	$57^\circ 24'$ h m 22 4
July 8.6	10.84 + .18	2.75 + .19	19.17 + .21	62.70 +1.15	12.22 - .80	32.09 + .25	47.70 + .22	50.94 + .24
18.6	10.99 .14	2.93 .17	19.35 .17	63.73 1.00	11.50 .64	32.24 .20	47.91 .18	51.16 .20
28.5	11.11 .10	3.09 .13	19.51 .12	64.61 .78	10.94 .44	32.42 .15	48.08 .14	51.34 .16
Aug. 7.5	11.19 + .05	3.20 .10	19.60 .07	65.30 .48	10.63 .22	32.52 .09	48.19 .10	51.47 .12
17.5	11.22 .00	3.29 + .05	19.66 + .03	65.67 + .08	10.50 - .02	32.60 + .03	48.27 .06	51.58 .08
27.5	11.20 - .05	3.31 - .01	19.67 - .02	65.56 - .22	10.59 + .23	32.60 - .03	48.30 + .01	51.64 + .02
Sept. 6.4	11.11 .10	3.27 .05	19.60 .08	65.22 .52	10.97 .48	32.54 .09	48.28 - .04	51.61 - .03
16.4	10.99 .13	3.21 .07	19.50 .11	64.50 .85	11.53 .66	32.42 .13	48.23 .07	51.57 .06
26.4	10.86 .17	3.12 .11	19.38 .15	63.54 1.17	12.29 .87	32.29 .17	48.16 .10	51.51 .10
Oct. 6.3	10.67 .20	2.97 .15	19.21 .19	62.17 1.44	13.27 1.07	32.08 .22	48.02 .14	51.38 .14
16.3	10.45 - .22	2.81 - .16	19.00 - .21	60.66 -1.53	14.43 +1.22	31.84 - .24	47.87 - .16	51.23 - .16
26.3	10.24 .21	2.66 .16	18.79 .21	59.09 1.67	15.71 1.32	31.60 .25	47.72 .16	51.07 .17
Nov. 5.3	10.03 .21	2.49 .17	18.58 .22	57.32 1.79	17.06 1.38	31.35 .26	47.56 .17	50.90 .18
15.2	9.81 .21	2.32 .16	18.36 .23	55.49 1.77	18.46 1.40	31.08 .27	47.39 .18	50.71 .19
25.2	9.59 .20	2.15 .13	18.13 .21	53.76 1.65	19.85 1.35	30.80 .26	47.21 .16	50.52 .18
Dec. 5.2	9.42 - .18	2.04 - .11	17.94 - .18	52.18 -1.50	21.16 +1.25	30.55 - .23	47.06 - .14	50.35 - .16
15.2	9.27 .15	1.96 .10	17.78 .17	50.74 1.35	22.38 1.11	30.34 .22	46.94 .13	50.21 .16
25.1	9.13 - .14	1.86 - .10	17.62 - .16	49.46 -1.22	23.32 + .89	30.13 - .21	46.81 - .13	50.06 - .15



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Mean Solar Date.	$\nu$ Octantis.	$\gamma$ Aquarii.	$\sigma$ Aquarii.	$\alpha$ Lacertæ.	10 Lacertæ.	$\beta$ Octantis.	$\lambda$ Pegasi.	Groombr. 1706, S.P.
	176° 34'	91° 59'	101° 17'	40° 19'	51° 34'	172° 0'	67° 4'	348° 24'
	$\begin{smallmatrix} h & m \\ 22 & 8 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 15 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 24 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 26 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 34 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 34 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 40 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 50 \end{smallmatrix}$
Aug. 7.6	$\begin{smallmatrix} s \\ 76.36 + .15 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 40.53 + .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 30.98 + .15 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 32.76 + .15 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 4.82 + .15 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 11.55 + .82 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 57.61 + .16 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 29.74 - .29 \end{smallmatrix}$
17.5	$\begin{smallmatrix} s \\ 77.48 + .72 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 40.66 .10 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 31.13 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 32.90 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 4.97 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 12.23 .50 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 57.76 .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 29.50 .16 \end{smallmatrix}$
27.5	$\begin{smallmatrix} s \\ 77.79 - .02 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 40.74 + .05 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 31.23 .06 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 32.97 + .04 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 5.06 + .06 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 12.56 + .18 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 57.86 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 29.42 - .01 \end{smallmatrix}$
Sept. 6.5	$\begin{smallmatrix} s \\ 77.43 .58 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 40.74 .00 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 31.24 + .01 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 32.98 - .02 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 5.08 .00 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 12.60 - .06 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 57.89 + .02 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 29.47 + .14 \end{smallmatrix}$
16.4	$\begin{smallmatrix} s \\ 76.66 1.15 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 40.73 - .02 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 31.24 - .01 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 32.94 .07 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 5.06 - .03 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 12.45 .29 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 57.89 - .01 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 29.71 .32 \end{smallmatrix}$
26.4	$\begin{smallmatrix} s \\ 75.16 - 1.90 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 40.71 - .06 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 31.22 - .06 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 32.86 - .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 5.03 - .07 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 12.03 - .65 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 57.88 - .05 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 30.11 + .47 \end{smallmatrix}$
Oct. 6.4	$\begin{smallmatrix} s \\ 72.83 2.47 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 40.61 .10 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 31.13 .09 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 32.72 .16 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 4.92 .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 11.15 .95 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 57.81 .09 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 30.65 .61 \end{smallmatrix}$
16.4	$\begin{smallmatrix} s \\ 70.10 2.82 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 40.49 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 31.01 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 32.53 .20 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 4.77 .15 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 10.15 1.07 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 57.69 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 31.32 .76 \end{smallmatrix}$
26.3	$\begin{smallmatrix} s \\ 67.30 3.21 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 40.38 .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 30.91 .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 32.32 .22 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 4.63 .16 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 9.03 1.25 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 57.58 .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 32.17 .90 \end{smallmatrix}$
Nov. 5.3	$\begin{smallmatrix} s \\ 63.88 3.53 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 40.26 .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 30.78 .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 32.09 .24 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 4.46 .18 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 7.66 1.43 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 57.46 .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 33.11 1.00 \end{smallmatrix}$
15.3	$\begin{smallmatrix} s \\ 60.23 - 3.57 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 40.11 - .15 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 30.63 - .15 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 31.86 - .26 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 4.27 - .20 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 6.17 - 1.47 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 57.32 - .16 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 34.17 + 1.11 \end{smallmatrix}$
25.2	$\begin{smallmatrix} s \\ 56.71 3.43 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 39.96 .13 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 30.48 .13 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 31.58 .26 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 4.06 .20 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 4.70 1.45 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 57.15 .15 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 35.33 1.18 \end{smallmatrix}$
Dec. 5.2	$\begin{smallmatrix} s \\ 53.37 3.30 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 39.85 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 30.37 .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 31.32 .24 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 3.88 .18 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 3.27 1.38 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 57.01 .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 36.53 1.22 \end{smallmatrix}$
15.2	$\begin{smallmatrix} s \\ 50.08 3.14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 39.74 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 30.26 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 31.10 .24 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 3.71 .18 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 1.93 1.37 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 56.89 .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 37.76 1.24 \end{smallmatrix}$
25.2	$\begin{smallmatrix} s \\ 47.06 2.87 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 39.64 .10 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 30.14 .10 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 30.85 .23 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 3.52 .17 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 0.68 - 1.23 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 56.74 .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 39.00 1.23 \end{smallmatrix}$
35.1	$\begin{smallmatrix} s \\ 44.40 - 2.50 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 39.55 - .09 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 30.05 - .09 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 30.62 - .22 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 3.35 - .17 \end{smallmatrix}$	$\begin{smallmatrix} s \\ . . . \end{smallmatrix}$	$\begin{smallmatrix} s \\ 56.60 - .13 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 40.20 + 1.20 \end{smallmatrix}$
Mean Solar Date.	$\sigma$ Androm.	$\phi$ Aquarii.	$\tau$ Pegasi.	$\lambda$ Androm.	$\epsilon^1$ Aquarii.	$\delta$ Sculptoris.	$\gamma^1$ Octantis.	33 Piscium.
	48° 18'	96° 41'	66° 54'	44° 11'	108° 56'	118° 47'	172° 40'	96° 22'
	$\begin{smallmatrix} h & m \\ 22 & 56 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 8 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 14 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 31 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 38 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 42 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 45 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 59 \end{smallmatrix}$
Aug. 17.6	$\begin{smallmatrix} s \\ 36.72 + .15 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.60 + .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.79 + .15 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 55.03 + .17 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 11.62 + .18 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 53.49 + .18 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.20 + .96 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.43 + .19 \end{smallmatrix}$
27.5	$\begin{smallmatrix} s \\ 36.85 .09 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.71 .09 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.92 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 55.19 .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 11.78 .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 53.66 .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 20.09 .68 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.60 .14 \end{smallmatrix}$
Sept. 6.5	$\begin{smallmatrix} s \\ 36.90 + .03 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.77 .06 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.99 .07 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 55.28 .07 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 11.89 .10 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 53.77 .10 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 20.64 .43 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.71 .10 \end{smallmatrix}$
16.5	$\begin{smallmatrix} s \\ 36.90 .00 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.82 + .03 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 55.04 + .03 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 55.34 + .04 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 11.97 .06 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 53.86 .07 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 20.98 + .15 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.80 .08 \end{smallmatrix}$
26.4	$\begin{smallmatrix} s \\ 36.89 - .05 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.84 - .01 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 55.07 - .01 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 55.38 .00 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 12.01 + .02 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 53.90 + .02 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 20.94 - .23 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.88 + .03 \end{smallmatrix}$
Oct. 6.4	$\begin{smallmatrix} s \\ 36.81 - .10 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.80 - .05 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 55.03 - .05 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 55.35 - .06 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 11.99 - .03 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 53.88 - .04 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 20.51 - .54 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.87 - .01 \end{smallmatrix}$
16.4	$\begin{smallmatrix} s \\ 36.68 .13 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.72 .08 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.95 .08 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 55.26 .10 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 11.94 .05 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 53.83 .06 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.86 .77 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.85 .03 \end{smallmatrix}$
26.4	$\begin{smallmatrix} s \\ 36.54 .15 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.64 .09 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.87 .09 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 55.15 .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 11.89 .08 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 53.77 .09 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.99 1.05 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.81 .05 \end{smallmatrix}$
Nov. 5.3	$\begin{smallmatrix} s \\ 36.40 .17 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.54 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.77 .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 55.01 .15 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 11.80 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 53.66 .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 17.75 1.32 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.76 .08 \end{smallmatrix}$
15.3	$\begin{smallmatrix} s \\ 36.21 .19 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.41 .13 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.64 .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.85 .19 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 11.67 .13 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 53.52 .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 16.32 1.46 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.66 .10 \end{smallmatrix}$
25.3	$\begin{smallmatrix} s \\ 36.00 - .20 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.28 - .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.49 - .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.64 - .20 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 11.54 - .13 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 53.37 - .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 14.82 - 1.53 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.55 - .11 \end{smallmatrix}$
Dec. 5.3	$\begin{smallmatrix} s \\ 35.80 .19 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.17 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.36 .13 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.44 .19 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 11.42 .13 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 53.24 .15 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 13.26 1.63 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.45 .11 \end{smallmatrix}$
15.2	$\begin{smallmatrix} s \\ 35.61 .20 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.06 .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.24 .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.25 .20 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 11.30 .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 53.11 .15 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 11.56 1.68 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.34 .12 \end{smallmatrix}$
25.2	$\begin{smallmatrix} s \\ 35.42 .20 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.93 .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.08 .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 54.02 .22 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 11.15 .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 52.92 .14 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 9.88 1.58 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.20 .12 \end{smallmatrix}$
35.2	$\begin{smallmatrix} s \\ 35.23 - .19 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 18.81 - .09 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 53.95 - .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 53.80 - .21 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 11.03 - .12 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 52.80 - .11 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 8.39 - 1.39 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 24.08 - .12 \end{smallmatrix}$

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Mean Solar Date.	$\beta$ Cassiop.	$\epsilon$ Androm.	$\sigma$ Androm.	$\iota$ Ceti.	6 Urs.Min., S. P.	44 Piscium.	$\pi$ Androm.	$\phi$ Cassiop.
	31° 29'	44° 34'	53° 51'	99° 28'	358° 21'	88° 42'	56° 55'	42° 21'
	$\begin{smallmatrix} h & m \\ 0 & 2 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 0 & 4 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 0 & 12 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 0 & 13 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 0 & 13 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 0 & 19 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 0 & 30 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 0 & 38 \end{smallmatrix}$
Jan. 0.2	60.67 - .33	18.53 - .22	16.96 - .15	31.20 - .11	64.18 +7.50	27.81 - .11	42.09 - .17	17.07 - .22
10.2	60.35 .31	18.31 .20	16.80 .16	31.09 .11	71.66 7.42	27.70 .11	41.93 .17	16.85 .23
20.2	60.05 .29	18.13 .19	16.64 .16	30.99 .10	78.90 7.04	27.61 .10	41.78 .16	16.61 .23
30.2	59.77 - .27	17.94 - .18	16.48 - .15	30.89 - .09	85.61 +6.38	27.51 - .09	41.62 - .15	16.39 - .22
Aug. 26.6	65.07 + .22	22.23 + .16	20.34 + .18	34.26 + .15	23.02 -3.22	30.83 + .15	45.26 + .18	20.52 + .24
Sept. 5.6	65.26 .17	22.38 .13	20.50 .14	34.40 .13	20.30 2.22	30.97 .13	45.43 .16	20.74 .19
15.5	65.40 .10	22.49 .09	20.62 .10	34.51 .09	18.57 1.23	31.09 .09	45.57 .11	20.90 .14
25.5	65.46 + .04	22.55 + .05	20.69 .05	34.57 .06	17.88 - .16	31.15 .06	45.65 .08	21.02 .10
Oct. 5.5	65.48 - .01	22.58 .00	20.72 + .01	34.62 + .02	18.30 + .98	31.20 + .03	45.72 + .05	21.09 + .05
15.4	65.43 - .08	22.55 - .05	20.72 - .02	34.61 - .02	19.84 +2.08	31.21 - .01	45.74 .00	21.12 .00
25.4	65.32 .13	22.49 .09	20.68 .05	34.58 .04	22.42 3.12	31.19 .04	45.72 - .03	21.10 - .04
Nov. 4.4	65.16 .19	22.38 .12	20.62 .09	34.53 .07	26.16 4.27	31.14 .06	45.68 .06	21.04 .09
14.4	64.95 .23	22.25 .14	20.51 .12	34.45 .09	30.87 5.18	31.07 .08	45.60 .10	20.93 .12
24.3	64.70 .26	22.09 .16	20.38 .14	34.35 .11	36.46 6.02	30.98 .10	45.49 .12	20.80 .15
Dec. 4.3	64.44 - .28	21.91 - .19	20.24 - .15	34.23 - .12	42.87 +6.76	30.87 - .11	45.37 - .13	20.63 - .18
14.3	64.14 .31	21.71 .21	20.08 .16	34.12 .12	49.87 7.24	30.76 .11	45.24 .14	20.45 .20
24.2	63.82 .32	21.50 .22	19.91 .17	33.99 .13	57.27 7.54	30.65 .12	45.09 .16	20.24 .22
34.2	63.50 - .32	21.28 - .22	19.74 - .17	33.87 - .13	64.84 +7.57	30.53 - .12	44.92 - .16	20.02 - .22
Mean Solar Date.	$\delta$ Piscium.	$\gamma$ Cassiop.	$\mu$ Androm.	43 Cephei.	f Piscium.	$\kappa$ Tucanæ.	$\kappa$ Octantis, S. P.	$\nu$ Androm.
	83° 3'	29° 55'	52° 8'	4° 22'	87° 0'	159° 30'	184° 49'	49° 11'
	$\begin{smallmatrix} h & m \\ 0 & 42 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 0 & 49 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 0 & 50 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 0 & 53 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 1 & 11 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 1 & 11 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 1 & 22 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 1 & 30 \end{smallmatrix}$
Jan. 0.3	40.49 - .11	44.60 - .33	20.11 - .17	15.05 -2.70	49.71 - .13	49.53 - .56	27.48 +2.87	1.01 - .17
10.2	40.38 .12	44.27 .34	19.93 .18	12.32 2.75	49.58 .13	48.97 .56	30.36 2.89	0.83 .19
20.2	40.25 .13	43.92 .34	19.76 .18	9.56 2.75	49.45 .13	48.41 .55	33.25 2.86	0.64 .21
30.2	40.13 - .12	43.59 - .33	19.58 - .17	6.85 -2.68	49.32 - .13	47.88 - .51	36.00 +2.65	0.41 - .23
Sept. 5.6	43.47 + .16	48.81 + .25	23.41 + .18	32.35 +1.52	52.40 + .19	52.99 + .37	24.01 -1.52	3.99 + .25
15.6	43.61 .12	49.04 .20	23.58 .15	33.67 1.12	52.57 .15	53.32 .29	22.69 1.11	4.22 .20
25.5	43.70 .08	49.21 .13	23.70 .10	34.58 .70	52.69 .11	53.57 .20	21.80 .66	4.39 .16
Oct. 5.5	43.76 .04	49.30 .07	23.78 .06	35.07 + .28	52.78 .07	53.72 .10	21.37 - .19	4.53 .12
15.5	43.80 + .02	49.35 + .02	23.82 + .03	35.14 - .15	52.84 .04	53.79 + .02	21.42 + .31	4.62 .08
25.5	43.80 - .01	49.34 - .05	23.83 - .01	34.76 - .60	52.87 + .01	53.76 - .07	21.99 + .81	4.68 + .05
Nov. 4.4	43.77 .04	49.25 .11	23.80 .05	33.95 1.03	52.87 - .02	53.63 .18	23.04 1.30	4.71 + .01
14.4	43.73 .06	49.12 .17	23.74 .08	32.70 1.44	52.84 .04	53.41 .27	24.60 1.76	4.69 - .04
24.4	43.66 .08	48.92 .22	23.64 .11	31.07 1.82	52.79 .06	53.09 .36	26.54 2.13	4.64 .07
Dec. 4.3	43.57 .10	48.69 .25	23.52 .13	29.06 2.17	52.72 .08	52.70 .43	28.86 2.48	4.55 .10
14.3	43.47 - .11	48.43 - .29	23.38 - .15	26.73 -2.45	52.64 - .10	52.23 - .50	31.44 +2.70	4.44 - .13
24.3	43.35 .12	48.12 .33	23.23 .16	24.16 2.66	52.52 .11	51.71 .55	34.20 2.83	4.29 .76
34.3	43.23 - .12	47.78 - .35	23.06 - .17	21.42 -2.80	52.41 - .12	51.13 - .61	37.04 +2.86	4.12 - .18



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Mean Solar Date.	$\pi$ Piscium.	$\nu$ Piscium.	$\zeta$ Ceti.	$\gamma$ Androm.	$\beta$ Trianguli.	4 Urs. Min. S. P.	$\gamma$ Trianguli.	67 Ceti.
	$78^{\circ} 27'$ h m 1 30	$85^{\circ} 6'$ h m 1 35	$100^{\circ} 55'$ h m 1 45	$48^{\circ} 14'$ h m 1 56	$55^{\circ} 34'$ h m 2 2	$348^{\circ} 6'$ h m 2 9	$56^{\circ} 41'$ h m 2 10	$96^{\circ} 57'$ h m 2 11
Jan. 0.3	$57.98 - .13$	$24.64 - .12$	$44.91 - .13$	$44.62 - .17$	$40.18 - .13$	$14.02 + 1.00$	$26.80 - .13$	$12.83 - .10$
10.3	$57.85 .13$	$24.52 .13$	$44.78 .13$	$48.44 .19$	$40.04 .16$	$15.06 1.08$	$26.66 .16$	$12.72 .12$
20.2	$57.72 .14$	$24.39 .14$	$44.65 .14$	$48.25 .20$	$39.87 .17$	$16.17 1.14$	$26.49 .17$	$12.59 .14$
30.2	$57.57 .13$	$24.25 .14$	$44.50 .14$	$48.03 .21$	$39.70 .18$	$17.30 1.13$	$26.32 .18$	$12.45 .15$
Feb. 9.2	$57.44 .13$	$24.12 .13$	$44.36 .14$	$47.83 .20$	$39.51 .18$	$18.39 1.09$	$26.14 .19$	$12.30 .15$
19.2	$57.32 - .13$	$24.01 - .11$	$44.22 - .14$	$47.64 - .19$	$39.33 - .18$	$19.45 + 1.03$	$25.95 - .19$	$12.15 - .15$
Sept. 25.6	$60.89 + .14$	$27.48 + .12$	$47.56 + .14$	$51.87 + .19$	$43.21 + .18$	$11.14 - .56$	$29.74 + .18$	$15.32 + .16$
Oct. 5.5	$61.01 .10$	$27.59 .10$	$47.69 .11$	$52.04 .16$	$43.38 .16$	$10.65 .42$	$29.91 .16$	$15.47 .13$
15.5	$61.08 .06$	$27.67 .07$	$47.77 .08$	$52.18 .12$	$45.52 .12$	$10.30 .26$	$30.06 .13$	$15.58 .10$
25.5	$61.13 + .03$	$27.72 + .04$	$47.84 + .05$	$52.27 + .07$	$43.61 + .08$	$10.13 - .08$	$30.17 + .09$	$15.66 + .07$
Nov. 4.5	$61.15 + .01$	$27.75 + .02$	$47.87 + .02$	$52.32 + .04$	$43.68 .05$	$10.13 + .10$	$30.23 .06$	$15.72 .04$
14.4	$61.15 - .02$	$27.75 - .01$	$47.87 - .01$	$52.34 .00$	$43.71 + .01$	$10.32 .29$	$30.28 + .03$	$15.74 + .01$
24.4	$61.11 .05$	$27.72 .04$	$47.84 .04$	$52.33 - .04$	$43.70 - .03$	$10.72 .47$	$30.28 - .01$	$15.74 - .02$
Dec. 4.4	$61.06 .06$	$27.66 .07$	$47.79 .06$	$52.27 .08$	$43.66 .06$	$11.26 .62$	$30.25 .05$	$15.71 .05$
14.3	$60.99 - .09$	$27.59 - .09$	$47.73 - .09$	$52.17 - .12$	$43.59 - .09$	$11.98 + .80$	$30.19 - .09$	$15.65 - .08$
24.3	$60.88 .11$	$27.49 .11$	$47.62 .12$	$52.04 .15$	$43.48 .13$	$12.84 .93$	$30.08 .12$	$15.56 .10$
34.3	$60.77 - .12$	$27.37 - .12$	$47.50 - .13$	$51.87 - .18$	$43.33 - .16$	$13.85 + 1.08$	$29.94 - .14$	$15.45 - .12$
Mean Solar Date.	$\delta$ Hydri.	$\delta$ Ceti.	$\mu$ Hydri.	$\theta$ Persei.	$\sigma$ Arietis.	47 Cephei.	$\epsilon$ Arietis.	$\beta$ Persei, (Algol.)
	$159^{\circ} 11'$ h m 2 19	$90^{\circ} 10'$ h m 2 33	$169^{\circ} 37'$ h m 2 34	$41^{\circ} 16'$ h m 2 36	$75^{\circ} 24'$ h m 2 45	$11^{\circ} 3'$ h m 2 50	$69^{\circ} 7'$ h m 2 52	$49^{\circ} 30'$ h m 3 0
Jan. 0.3	$41.86 - .52$	$33.43 - .10$	$10.02 - 1.13$	$19.13 - .15$	$6.78 - .09$	$50.08 - .72$	$36.38 - .10$	$39.48 - .12$
10.3	$41.32 .56$	$33.32 .11$	$8.85 1.21$	$18.95 .20$	$6.68 .12$	$49.30 .87$	$36.28 .12$	$39.37 .14$
20.3	$40.74 .59$	$33.21 .13$	$7.61 1.25$	$18.72 .24$	$6.55 .14$	$48.37 .98$	$36.15 .14$	$39.20 .18$
30.3	$40.15 .59$	$33.06 .15$	$6.36 1.25$	$18.48 .25$	$6.41 .15$	$47.35 1.04$	$36.00 .16$	$39.00 .21$
Feb. 9.2	$39.57 .58$	$32.91 .16$	$5.12 1.23$	$18.23 .26$	$6.26 .16$	$46.31 1.06$	$35.84 .17$	$38.78 .22$
19.2	$39.00 - .56$	$32.75 - .16$	$3.91 - 1.19$	$17.97 - .26$	$6.10 - .16$	$45.25 - 1.05$	$35.67 - .17$	$38.56 - .22$
Sept. 25.6	$43.93 + .35$	$35.77 + .18$	$11.29 + .74$	$22.24 + .27$	$9.19 + .19$	$56.19 + .89$	$38.80 + .20$	$42.16 + .26$
Oct. 5.6	$44.23 .25$	$35.94 .16$	$11.91 .50$	$22.50 .24$	$9.37 .17$	$57.02 .77$	$38.99 .19$	$42.41 .24$
15.6	$44.43 .15$	$36.08 .13$	$12.29 .28$	$22.71 .19$	$9.53 .15$	$57.72 .62$	$39.17 .17$	$42.63 .20$
25.5	$44.53 + .05$	$36.19 + .09$	$12.47 + .07$	$22.88 + .15$	$9.66 + .11$	$58.26 + .46$	$39.32 + .13$	$42.81 + .17$
Nov. 4.5	$44.52 - .06$	$36.26 .06$	$12.43 - .15$	$23.01 .10$	$9.75 .08$	$58.64 .28$	$39.43 .09$	$42.96 .13$
14.5	$44.40 .18$	$36.32 .04$	$12.16 .38$	$23.08 .06$	$9.83 .06$	$58.81 + .10$	$39.50 .06$	$43.06 .09$
24.4	$44.16 .28$	$36.34 + .01$	$11.68 .58$	$23.12 + .01$	$9.87 + .02$	$58.84 - .05$	$39.55 + .04$	$43.13 + .05$
Dec. 4.4	$43.84 .36$	$36.33 - .03$	$11.01 .76$	$23.10 - .05$	$9.87 - .02$	$58.65 .28$	$39.57 .00$	$43.15 .00$
14.4	$43.44 - .44$	$36.29 - .05$	$10.16 - .94$	$23.03 - .10$	$9.84 - .04$	$58.27 - .48$	$39.55 - .04$	$43.13 - .05$
24.4	$42.97 .50$	$36.23 .08$	$9.15 1.09$	$22.90 .14$	$9.79 .07$	$57.69 .65$	$39.50 .07$	$43.06 .09$
34.3	$42.45 - .54$	$36.13 - .11$	$8.04 - 1.15$	$22.75 - .17$	$9.70 - .10$	$56.97 - .78$	$39.41 - .10$	$42.94 - .13$

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Mean Solar Date.	$\rho$ Octantis, S. P.	$\iota$ Hydri.	$f$ Tauri.	$\gamma$ Camelop.	$\gamma$ Hydri.	$\epsilon$ Persei.	$\Delta^1$ Tauri.	$e$ Persei.	
	185° 56'	167° 49'	77° 28'	19° 2'	164° 36'	50° 20'	68° 15'	42° 36'	
	<sup>h</sup> <sub>3</sub> <sup>m</sup> <sub>16</sub>	<sup>h</sup> <sub>3</sub> <sup>m</sup> <sub>18</sub>	<sup>h</sup> <sub>3</sub> <sup>m</sup> <sub>24</sub>	<sup>h</sup> <sub>3</sub> <sup>m</sup> <sub>38</sub>	<sup>h</sup> <sub>3</sub> <sup>m</sup> <sub>49</sub>	<sup>h</sup> <sub>3</sub> <sup>m</sup> <sub>50</sub>	<sup>h</sup> <sub>3</sub> <sup>m</sup> <sub>57</sub>	<sup>h</sup> <sub>4</sub> <sup>m</sup> <sub>0</sub>	
Jan. 0.4	<sup>s</sup> 40.59 +2.18	<sup>s</sup> 54.39 - .89	<sup>s</sup> 29.70 - .10	<sup>s</sup> 12.78 - .30	<sup>s</sup> 5.29 - .60	<sup>s</sup> 6.53 - .08	<sup>s</sup> 52.18 - .04	<sup>s</sup> 17.20 - .08	
10.3	42.83 .230	53.44 .98	29.59 .12	12.43 .40	4.64 .70	6.44 .12	52.12 .09	17.10 .13	
20.3	45.19 2.42	52.41 1.06	29.46 .15	11.99 .47	3.89 .80	6.31 .15	52.01 .12	16.95 .18	
30.3	47.66 2.47	51.34 1.08	29.30 .16	11.49 .53	3.05 .85	6.14 .19	51.88 .15	16.75 .22	
Feb. 9.3	50.12 2.47	50.25 1.09	29.14 .17	10.93 .58	2.19 .88	5.94 .22	51.72 .17	16.51 .25	
19.2	52.60 +2.44	49.15 -1.09	28.97 - .17	10.33 - .60	1.29 - .90	5.71 - .23	51.55 - .18	16.26 - .26	
29.2	54.96 +2.30	48.08 -1.06	28.81 - .16	9.73 - .60	0.39 - .89	5.48 - .23	51.36 - .19	15.99 - .27	
Oct. 5.6	47.59 -1.13	54.12 + .60	32.01 + .20	16.85 + .60	4.29 + .60	9.05 + .28	54.33 + .26	19.80 + .30	
15.6	46.65 .75	54.65 .46	32.20 .18	17.41 .52	4.83 .47	9.32 .26	54.57 .23	20.10 .29	
25.5	46.09 - .36	55.01 + .26	32.36 + .15	17.89 + .44	5.23 + .34	9.56 + .23	54.78 + .19	20.39 + .27	
Nov. 4.5	45.93 + .07	55.17 + .07	32.50 .13	18.28 .34	5.49 .19	9.77 .19	54.95 .17	20.63 .22	
14.5	46.24 .51	55.16 - .11	32.62 .10	18.57 .24	5.61 + .04	9.93 .15	55.11 .14	20.83 .18	
24.5	46.93 .90	54.95 .30	32.69 .06	18.76 + .13	5.59 - .10	10.07 .11	55.23 .10	20.98 .13	
Dec. 4.4	48.04 1.31	54.56 .48	32.73 + .03	18.82 .00	5.42 .24	10.15 .06	55.30 .06	21.09 .08	
14.4	49.54 +1.66	53.98 - .65	32.74 - .01	18.77 - .11	5.10 - .40	10.18 + .01	55.35 + .03	21.14 + .01	
24.4	51.33 1.92	53.27 .78	32.72 .04	18.60 .23	4.62 .53	10.17 - .04	55.36 - .01	21.12 - .04	
34.4	53.38 +2.16	52.41 - .94	32.66 - .07	18.32 - .34	4.04 - .62	10.10 - .09	55.32 - .05	21.07 - .07	
Mean Solar Date.	$\alpha^1$ Eridani.	$\eta$ Urs.Min., S. P.	$m$ Persei.	$\delta$ Mensæ.	$\tau$ Tauri.	$\iota$ Tauri.	$\zeta$ Aurigæ.	$\beta$ Eridani.	
	97° 9'	346° 2'	47° 11'	170° 29'	67° 16'	71° 22'	49° 6'	95° 14'	
	<sup>h</sup> <sub>4</sub> <sup>m</sup> <sub>6</sub>	<sup>h</sup> <sub>4</sub> <sup>m</sup> <sub>20</sub>	<sup>h</sup> <sub>4</sub> <sup>m</sup> <sub>25</sub>	<sup>h</sup> <sub>4</sub> <sup>m</sup> <sub>25</sub>	<sup>h</sup> <sub>4</sub> <sup>m</sup> <sub>35</sub>	<sup>h</sup> <sub>4</sub> <sup>m</sup> <sub>44</sub>	<sup>h</sup> <sub>4</sub> <sup>m</sup> <sub>54</sub>	<sup>h</sup> <sub>5</sub> <sup>m</sup> <sub>2</sub>	
Jan. 0.4	<sup>s</sup> 13.76 - .04	<sup>s</sup> 48.44 + .46	<sup>s</sup> 17.80 - .05	<sup>s</sup> 55.78 - .86	<sup>s</sup> 18.98 - .01	<sup>s</sup> 37.25 + .01	<sup>s</sup> 24.75 + .01	<sup>s</sup> 10.57 + .01	
10.4	13.70 .09	48.98 .62	17.74 .09	54.80 1.09	18.95 .05	37.24 - .04	24.73 - .05	10.56 - .04	
20.4	13.59 .12	49.68 .77	17.63 .14	53.62 1.25	18.87 .09	37.18 .09	24.65 .11	10.50 .09	
30.3	13.47 .14	50.51 .85	17.47 .18	52.33 1.34	18.76 .13	37.07 .13	24.52 .15	10.39 .12	
Feb. 9.3	13.32 .16	51.38 .90	17.27 .22	50.93 1.43	18.62 .16	36.93 .15	24.35 .20	10.26 .14	
19.3	13.16 - .18	52.32 + .95	17.04 - .24	49.47 -1.48	18.45 - .18	36.77 - .17	24.13 - .23	10.11 - .17	
29.2	12.97 .19	53.28 .95	16.80 .24	47.98 1.48	18.26 .19	36.59 .18	23.90 .24	9.93 .18	
Mar. 10.2	12.79 - .18	54.21 + .90	16.56 - .24	46.52 -1.42	18.07 - .19	36.40 - .19	23.65 - .25	9.75 - .18	
Oct. 15.6	15.68 + .18	47.81 - .72	20.42 + .27	51.80 + .86	21.14 + .26	39.29 + .24	27.06 + .32	12.15 + .22	
25.6	15.86 + .17	47.15 - .60	20.69 + .27	52.58 + .68	21.39 + .24	39.53 + .23	27.37 + .30	12.37 + .22	
Nov. 4.6	16.03 .16	46.62 .45	20.95 .25	53.17 .46	21.61 .20	39.76 .21	27.66 .28	12.59 .20	
14.5	16.17 .13	46.26 .29	21.17 .20	53.51 + .22	21.79 .17	39.95 .18	27.92 .24	12.76 .17	
24.5	16.29 .09	46.03 - .14	21.35 .16	53.61 - .03	21.95 .15	40.11 .15	28.13 .19	12.93 .15	
Dec. 4.5	16.35 .05	45.98 + .04	21.49 .11	53.45 .28	22.08 .10	40.24 .11	28.30 .15	13.06 .10	
14.5	16.38 + .02	46.12 + .22	21.56 + .06	53.04 - .54	22.15 + .06	40.33 + .07	28.43 + .09	13.13 + .07	
24.4	16.39 - .01	46.42 .38	21.61 + .02	52.38 .77	22.19 + .02	40.37 + .03	28.48 + .03	13.19 + .04	
34.4	16.36 - .04	46.89 + .56	21.60 - .03	51.50 - .98	22.18 - .02	40.38 - .01	28.49 - .01	13.20 - .01	



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Mean Solar Date.	$\tau$ Orionis.	$\chi$ Aurigæ.	Groombr. 944.	$\kappa$ Orionis.	$\nu$ Aurigæ.	$\delta$ Doradus.	$\beta$ Aurigæ.	$\theta$ Aurigæ.
	$96^{\circ} 58'$ h m 5 11	$57^{\circ} 54'$ h m 5 25	$4^{\circ} 52'$ h m 5 25	$99^{\circ} 43'$ h m 5 42	$50^{\circ} 53'$ h m 5 43	$155^{\circ} 47'$ h m 5 44	$45^{\circ} 4'$ h m 5 51	$52^{\circ} 48'$ h m 5 51
Jan. 0.4	$60.20 + .01$	$13.01 + .04$	$16.18 - .20$	$17.10 + .04$	$29.46 + .06$	$37.29 - .15$	$3.87 + .07$	$51.11 + .08$
10.4	$60.19 - .03$	$13.04 - .01$	$15.65 .77$	$17.12 - .01$	$29.50 + .01$	$37.10 .23$	$3.93 + .01$	$51.16 + .02$
20.4	$60.14 .07$	$13.01 .06$	$14.64 1.24$	$17.08 .06$	$29.48 - .05$	$36.83 .32$	$3.91 - .06$	$51.15 - .04$
30.4	$60.05 .11$	$12.92 .11$	$13.18 1.66$	$17.01 .10$	$29.39 .11$	$36.46 .40$	$3.82 .11$	$51.08 .10$
Feb. 9.3	$59.91 .14$	$12.79 .16$	$11.33 2.00$	$16.89 .13$	$29.27 .15$	$36.02 .47$	$3.69 .17$	$50.96 .14$
19.3	$59.77 - .16$	$12.61 - .19$	$9.17 -2.26$	$16.75 - .16$	$29.09 - .20$	$35.52 - .52$	$3.49 - .22$	$50.80 - .18$
29.3	$59.59 .18$	$12.42 .20$	$6.80 2.41$	$16.58 .18$	$28.87 .23$	$34.99 .56$	$3.26 .24$	$50.60 .22$
Mar. 10.3	$59.40 .19$	$12.21 .22$	$4.35 2.47$	$16.39 .19$	$28.64 .24$	$34.41 .57$	$3.01 .26$	$50.36 .24$
20.2	$59.21 - .19$	$11.98 - .23$	$1.87 -2.48$	$16.20 - .19$	$28.40 - .24$	$33.84 - .56$	$2.74 - .27$	$50.13 - .23$
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Oct. 25.6	$61.91 + .23$	$15.27 + .29$	$24.52 +2.56$	$18.58 + .25$	$31.71 + .33$	$36.13 + .46$	$6.18 + .36$	$53.27 + .31$
Nov. 4.6	$62.13 .21$	$15.55 .27$	$26.90 2.20$	$18.82 .23$	$32.03 .31$	$36.56 .40$	$6.53 .34$	$53.58 .30$
14.6	$62.32 .19$	$15.81 .25$	$28.93 1.88$	$19.04 .21$	$32.33 .29$	$36.92 .32$	$6.86 .31$	$53.87 .28$
24.5	$62.50 .16$	$16.04 .21$	$30.64 1.48$	$19.23 .18$	$32.60 .25$	$37.20 .22$	$7.15 .28$	$54.13 .25$
Dec. 4.5	$62.64 .11$	$16.23 .17$	$31.90 1.02$	$19.39 .15$	$32.83 .20$	$37.37 .12$	$7.41 .23$	$54.37 .21$
14.5	$62.72 + .07$	$16.38 + .12$	$32.69 + .53$	$19.53 + .11$	$33.00 + .15$	$37.45 + .03$	$7.60 + .17$	$54.55 + .16$
24.5	$62.78 + .04$	$16.47 .07$	$32.95 + .02$	$19.60 .06$	$33.12 .09$	$37.44 - .07$	$7.75 .11$	$54.69 .11$
34.4	$62.80 .00$	$16.52 + .02$	$32.73 - .46$	$19.64 + .02$	$33.18 + .03$	$37.31 - .18$	$7.82 + .04$	$54.77 + .05$
Mean Solar Date.	$\eta$ Geminor.	$\psi^1$ Aurigæ.	$\nu$ Geminor.	$\chi$ Draconis, S.P.	$\epsilon$ Geminor.	$\psi^5$ Aurigæ.	$\theta$ Geminor.	$\zeta$ Mensæ.
	$67^{\circ} 28'$ h m 6 7	$40^{\circ} 39'$ h m 6 15	$69^{\circ} 43'$ h m 6 22	$342^{\circ} 41'$ h m 6 23	$64^{\circ} 45'$ h m 6 36	$46^{\circ} 19'$ h m 6 38	$55^{\circ} 54'$ h m 6 45	$170^{\circ} 41'$ h m 6 49
Jan. 0.5	$54.64 + .08$	$60.71 + .12$	$6.58 + .08$	$4.23 + .05$	$49.80 + .11$	$25.16 + .13$	$10.87 + .13$	$49.18 - .14$
10.5	$54.71 + .04$	$60.79 + .04$	$6.64 + .04$	$4.34 .18$	$49.89 .06$	$25.27 + .07$	$10.98 .08$	$48.91 .40$
20.4	$54.72 - .01$	$60.79 - .04$	$6.66 .00$	$4.56 .30$	$49.92 + .01$	$25.30 .00$	$11.03 + .02$	$48.39 .64$
30.4	$54.67 .07$	$60.72 .11$	$6.63 - .05$	$4.95 .45$	$49.91 - .05$	$25.28 - .06$	$11.02 - .04$	$47.62 .68$
Feb. 9.4	$54.57 .11$	$60.59 .15$	$6.55 .10$	$5.45 .54$	$49.83 .10$	$25.18 .12$	$10.95 .09$	$46.65 1.06$
19.4	$54.45 - .14$	$60.42 - .21$	$6.42 - .14$	$6.03 + .63$	$49.72 - .13$	$25.04 - .17$	$10.84 - .14$	$45.49 -1.24$
29.3	$54.29 .17$	$60.17 .26$	$6.27 .17$	$6.70 .72$	$49.58 .17$	$24.85 .20$	$10.67 .18$	$44.21 1.36$
Mar. 10.3	$54.11 .19$	$59.90 .28$	$6.09 .19$	$7.46 .76$	$49.39 .19$	$24.64 .23$	$10.47 .20$	$42.79 1.46$
20.3	$53.91 .19$	$59.62 .29$	$5.90 .19$	$8.21 .77$	$49.20 .20$	$24.39 .26$	$10.27 .21$	$41.31 1.50$
30.3	$53.72 .19$	$59.33 .28$	$5.71 .19$	$8.99 .77$	$49.00 .20$	$24.12 .26$	$10.05 .23$	$39.80 1.51$
Apr. 9.2	$53.53 - .18$	$59.06 - .26$	$5.53 - .18$	$9.75 + .75$	$48.81 - .19$	$23.86 - .25$	$9.81 - .24$	$38.29 -1.50$
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Nov. 14.6	$57.04 + .27$	$63.66 + .36$	$8.85 + .28$	$4.60 - .59$	$52.09 + .30$	$27.80 + .36$	$13.29 + .31$	$42.80 +1.00$
24.6	$57.29 .24$	$64.00 .32$	$9.11 .25$	$4.08 .45$	$52.37 .27$	$28.14 .32$	$13.59 .29$	$43.69 .78$
Dec. 4.6	$57.51 .20$	$64.30 .27$	$9.34 .20$	$3.70 .32$	$52.62 .23$	$28.43 .28$	$13.86 .26$	$44.35 .54$
14.5	$57.68 + .15$	$64.54 + .22$	$9.51 + .17$	$3.43 - .20$	$52.82 + .19$	$28.69 + .24$	$14.10 + .22$	$44.78 + .30$
24.5	$57.81 .11$	$64.73 .16$	$9.67 .13$	$3.30 - .06$	$52.99 .15$	$28.90 .18$	$14.29 .17$	$44.93 + .02$
34.5	$57.90 + .07$	$64.85 + .09$	$9.77 + .08$	$3.33 + .10$	$53.12 + .11$	$29.04 + .12$	$14.44 + .15$	$44.82 - .24$

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Mean Solar Date.	ζ Geminor.	63 Aurigæ.	25 Camelop.	γ <sup>2</sup> Volantis.	β Can. Min.	26 Lynceis.	Groombr. 1374.	ω <sup>1</sup> Caneri.
	69° 16'	50° 29'	7° 22'	160° 19'	81° 29'	42° 8'	15° 46'	64° 17'
	<sub>h m</sub> 6 57	<sub>h m</sub> 7 3	<sub>h m</sub> 7 6	<sub>h m</sub> 7 9	<sub>h m</sub> 7 20	<sub>h m</sub> 7 46	<sub>h m</sub> 7 46	<sub>h m</sub> 7 53
Jan. 0.5	<sup>s</sup> 15.78 + .12	<sup>s</sup> 42.89 + .17	<sup>s</sup> 48.34 + .62	<sup>s</sup> 48.22 + .06	<sup>s</sup> 53.50 + .14	<sup>s</sup> 18.20 + .21	<sup>s</sup> 22.41 + .49	<sup>s</sup> 56.67 + .17
10.5	15.88 .08	43.03 .10	48.79 + .28	48.21 - .08	53.62 .10	18.39 .16	22.80 .29	56.82 .14
20.5	15.93 + .03	43.09 + .03	48.88 - .08	48.06 .20	53.69 + .04	18.52 .10	22.99 + .12	56.95 .09
30.4	15.93 - .02	43.10 - .03	48.64 .42	47.80 .30	53.71 - .01	18.59 + .03	23.05 - .02	57.00 + .03
Feb. 9.4	15.89 .07	43.05 .08	48.04 .76	47.44 .41	53.68 .05	18.58 - .04	22.93 .20	57.01 - .02
19.4	15.79 - .12	42.94 - .14	47.14 -1.03	46.98 - .51	53.61 - .10	18.50 - .11	22.64 - .36	56.96 - .07
29.4	15.65 .15	42.77 .18	45.99 1.26	46.42 .59	53.49 .13	18.35 .17	22.92 .49	56.87 .11
Mar. 10.3	15.50 .17	42.58 .21	44.62 1.45	45.81 .64	53.35 .15	18.16 .22	21.67 .60	56.74 .15
20.3	15.32 .19	42.35 .23	43.10 1.56	45.15 .68	53.19 .17	17.93 .25	21.04 .66	56.57 .17
30.3	15.13 .19	42.12 .23	41.54 1.60	44.46 .69	53.01 .18	17.67 .26	20.35 .71	56.39 .18
Apr. 9.2	14.94 - .18	41.88 - .22	39.92 -1.60	43.78 - .68	52.83 - .17	17.40 - .27	19.63 - .72	56.21 - .19
19.2	14.76 - .17	41.68 - .19	38.38 -1.51	43.11 - .66	52.66 - .16	17.14 - .25	18.91 - .72	56.02 - .19
Nov. 24.6	18.19 + .27	45.64 + .31	55.52 +1.60	46.86 + .47	55.65 + .26	20.87 + .41	26.09 + .88	58.91 + .31
Dec. 4.6	18.44 .24	45.94 .29	57.02 1.38	47.28 .36	55.90 .24	21.26 .37	26.92 .78	59.21 .29
14.6	18.66 + .20	46.22 + .25	58.29 +1.12	47.59 + .26	56.12 + .20	21.61 + .39	27.65 + .67	59.49 + .27
24.5	18.84 .16	46.44 .20	59.26 .81	47.79 + .13	56.30 .16	21.90 .28	28.26 .55	59.74 .23
34.5	18.98 + .12	46.61 + .15	59.89 + .46	47.85 - .01	56.44 + .12	22.16 + .22	28.75 + .43	59.94 + .18
Mean Solar Date.	ζ <sup>1</sup> Caneri.	β Caneri.	30 Mono- cerotis.	θ Chamæ- leontis.	σ Hydræ.	γ Caneri.	σ <sup>2</sup> Caneri, (mean.)	θ Hydræ.
	72° 0'	80° 27'	93° 32'	167° 7'	86° 15'	68° 7'	58° 59'	87° 12'
	<sub>h m</sub> 8 5	<sub>h m</sub> 8 10	<sub>h m</sub> 8 19	<sub>h m</sub> 8 24	<sub>h m</sub> 8 32	<sub>h m</sub> 8 36	<sub>h m</sub> 8 47	<sub>h m</sub> 9 8
Jan. 0.6	<sup>s</sup> 35.37 + .18	<sup>s</sup> 15.22 + .19	<sup>s</sup> 53.60 + .19	<sup>s</sup> 12.52 + .32	<sup>s</sup> 43.45 + .20	<sup>s</sup> 36.10 + .23	<sup>s</sup> 11.71 + .25	<sup>s</sup> 21.36 + .23
10.6	35.53 .15	15.39 .15	53.77 .15	12.76 + .17	43.62 .16	36.30 .19	11.94 .21	21.56 .19
20.5	35.66 .10	15.52 .10	53.89 .09	12.85 - .01	43.77 .12	36.46 .14	12.12 .15	21.73 .15
30.5	35.73 + .05	15.58 + .04	53.95 + .04	12.74 .20	43.85 .06	36.57 .08	12.24 .09	21.85 .10
Feb. 9.5	35.75 .00	15.60 - .01	53.97 .00	12.45 .37	43.89 + .02	36.61 + .02	12.29 + .04	21.92 + .05
19.4	35.72 - .06	15.57 - .06	53.95 - .05	12.00 - .53	43.88 - .04	36.61 - .03	12.31 - .01	21.95 .00
29.4	35.62 .11	15.49 .10	53.88 .09	11.38 .68	43.82 .08	36.56 .08	12.26 .07	21.92 - .05
Mar. 10.4	35.50 .13	15.38 .13	53.77 .12	10.64 .79	43.72 .11	36.46 .12	12.16 .12	21.86 .09
20.4	35.36 .15	15.24 .15	53.65 .14	9.80 .87	43.60 .14	36.33 .15	12.03 .15	21.75 .12
30.3	35.19 .17	15.08 .16	53.49 .16	8.90 .94	43.45 .16	36.17 .17	11.86 .17	21.63 .13
Apr. 9.3	35.02 - .18	14.92 - .17	53.32 - .17	7.92 - .99	43.29 - .16	36.00 - .17	11.68 - .18	21.50 - .14
19.3	34.84 .17	14.75 .17	53.15 .16	6.92 1.01	43.13 .16	35.83 .17	11.49 .19	21.35 .15
29.2	34.68 .16	14.58 .16	52.99 .16	5.91 1.00	42.97 .15	35.66 .16	11.31 .18	21.20 .14
May 9.2	34.53 - .14	14.44 - .13	52.84 - .14	4.92 - .98	42.82 - .14	35.50 - .15	11.14 - .16	21.06 - .13



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Mean Solar Date.	$\beta$ Argus.	$\alpha$ Lynceis.	10 Leonis Minoris.	$\sigma$ Leonis.	$\zeta$ Chamæ- leontis.	19 Leonis Minoris.	$\pi$ Leonis.	$\lambda$ Ursæ Majoris.
	$159^{\circ} 14'$ h m 9 11	$55^{\circ} 7'$ h m 9 14	$53^{\circ} 5'$ h m 9 27	$79^{\circ} 34'$ h m 9 34	$170^{\circ} 25'$ h m 9 37	$48^{\circ} 24'$ h m 9 50	$81^{\circ} 24'$ h m 9 54	$46^{\circ} 30'$ h m 10 10
Jan. 0.6	$59.60 + .40$	$0.77 + .29$	$8.47 + .28$	$59.02 + .27$	$24.03 + .86$	$36.07 + .33$	$6.37 + .27$	$7.13 + .37$
10.6	59.94 .29	1.04 .24	8.74 .26	59.26 .22	24.78 .64	36.38 .30	6.62 .23	7.48 .33
20.5	60.17 .17	1.25 .19	8.99 .21	59.45 .18	25.30 .40	36.66 .25	6.83 .19	7.78 .27
30.5	60.28 + .05	1.42 .13	9.16 .15	59.61 .13	25.58 + .18	36.87 .18	7.00 .15	8.01 .21
Feb. 9.5	60.27 - .06	1.51 .07	9.28 .09	59.71 .08	25.65 - .05	37.02 .12	7.13 .10	8.19 .15
19.5	60.15 - .18	1.55 + .01	9.33 + .03	59.76 + .03	25.47 - .29	37.10 + .05	7.19 + .05	8.30 + .08
29.4	59.91 .30	1.53 - .05	9.33 - .03	59.77 - .02	25.07 .50	37.12 .00	7.22 .00	8.34 + .01
Mar. 10.4	59.57 .37	1.46 .10	9.28 .09	59.73 .06	24.47 .70	37.09 - .07	7.20 - .04	8.33 - .05
20.4	59.18 .44	1.34 .14	9.15 .13	59.65 .09	23.69 .86	36.99 .12	7.14 .08	8.25 .11
30.4	58.70 .50	1.18 .17	9.01 .16	59.54 .12	22.76 1.00	36.86 .15	7.04 .11	8.12 .14
Apr. 9.3	58.18 - .54	1.01 - .18	8.84 - .18	59.41 - .14	21.69 -1.11	36.69 - .18	6.93 - .13	7.97 - .17
19.3	57.63 .56	0.82 .19	8.66 .19	59.27 .15	20.55 1.19	36.50 .20	6.79 .14	7.78 .20
29.3	57.07 .58	0.63 .20	8.46 .20	59.12 .15	19.32 1.24	36.30 .21	6.67 .14	7.58 .21
May 9.2	56.48 .58	0.43 .19	8.27 .19	58.98 .14	18.08 1.26	36.09 .21	6.53 .14	7.37 .20
19.2	55.92 - .55	0.26 - .16	8.09 - .17	58.84 - .13	16.80 -1.28	35.89 - .19	6.39 - .13	7.17 - .19
Mean Solar Date.	$\mu$ Hydræ.	$\beta$ Leonis Minoris.	$\alpha$ Antliæ.	$\beta$ Octantis, S. P.	41 Leonis Minoris.	$\delta$ Chamæ- leontis.	46 Leonis Minoris.	Groombr. 1706.
	$106^{\circ} 15'$ h m 10 20	$52^{\circ} 42'$ h m 10 21	$120^{\circ} 29'$ h m 10 21	$188^{\circ} 1'$ h m 10 33	$66^{\circ} 12'$ h m 10 37	$169^{\circ} 56'$ h m 10 44	$55^{\circ} 10'$ h m 10 46	$11^{\circ} 37'$ h m 10 50
Jan. 20.6	$30.83 + .20$	$12.20 + .26$	$52.85 + .20$	$58.01 - .70$	$8.13 + .24$	$49.47 + .76$	$50.97 + .28$	$41.79 + .94$
30.6	31.01 .16	12.44 .21	53.03 .16	57.43 .46	8.35 .20	50.14 .58	51.22 .22	42.63 .74
Feb. 9.6	31.15 .12	12.61 .15	53.17 .12	57.10 - .21	8.52 .15	50.62 .37	51.41 .17	43.27 .54
19.5	31.24 .07	12.73 .09	53.26 .07	57.01 + .02	8.65 .10	50.87 + .16	51.55 .12	43.72 .34
29.5	31.28 + .03	12.79 + .03	53.30 + .01	57.15 .26	8.72 + .05	50.94 - .04	51.64 .06	43.95 + .12
Mar. 10.5	31.29 - .02	12.79 - .03	53.29 - .03	57.52 + .49	8.74 .00	50.78 - .25	51.67 + .01	43.96 - .10
20.4	31.25 .07	12.74 .08	53.24 .07	58.13 .71	8.72 - .04	50.45 .42	51.66 - .03	43.76 .30
30.4	31.16 .10	12.64 .12	53.15 .11	58.94 .91	8.66 .08	49.93 .60	51.60 .09	43.37 .49
Apr. 9.4	31.06 .11	12.50 .15	53.03 .13	59.96 1.11	8.56 .11	49.26 .74	51.49 .12	42.78 .65
19.4	30.94 .13	12.35 .17	52.89 .15	61.14 1.26	8.44 .13	48.45 .88	51.37 .14	42.08 .75
29.3	30.81 - .14	12.17 - .18	52.74 - .16	62.49 +1.42	8.31 - .14	47.53 - .97	51.22 - .16	41.27 - .86
May 9.3	30.67 .14	11.99 .18	52.58 .16	63.96 1.52	8.16 .15	46.51 1.05	51.06 .17	40.37 .92
19.3	30.54 .14	11.81 .18	52.42 .16	65.53 1.61	8.02 .15	45.43 1.10	50.89 .17	39.44 .94
29.3	30.40 .13	11.64 .17	52.26 .15	67.16 1.63	7.87 .14	44.31 1.14	50.72 .16	38.50 .92
June 8.2	30.27 - .12	11.48 - .15	52.11 - .14	68.79 +1.62	7.74 - .12	43.16 -1.16	50.57 - .14	37.59 - .89

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Mean Solar Date.	$\gamma$ Octantis.	$p^3$ Leonis.	$\psi$ Urs. Maj.	$\nu$ Urs. Maj.	$\xi$ Hydræ.	$\chi$ Urs. Maj.	$\pi$ Virginis.	$\epsilon$ Corvi.
	$173^{\circ} 58'$ h m 11 0	$87^{\circ} 25'$ h m 11 1	$44^{\circ} 52'$ h m 11 3	$56^{\circ} 16'$ h m 11 12	$121^{\circ} 13'$ h m 11 27	$41^{\circ} 35'$ h m 11 39	$82^{\circ} 44'$ h m 11 54	$111^{\circ} 58'$ h m 12 4
	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>
Feb. 9.6	20.89 + .72	1.23 + .14	10.39 + .20	14.76 + .19	20.28 + .19	57.22 + .28	57.53 + .20	11.84 + .20
19.6	21.44 .38	1.36 .11	10.57 .16	14.93 .15	20.45 .15	57.47 .21	57.71 .17	12.03 .18
29.5	21.65 + .05	1.45 .07	10.70 .09	15.05 .09	20.57 .10	57.64 .14	57.86 .13	12.19 .14
Mar. 10.5	21.54 - .28	1.49 + .03	10.75 + .03	15.11 + .04	20.64 + .05	57.75 .08	57.96 .08	12.30 .09
20.5	21.09 .60	1.51 - .01	10.75 - .03	15.12 - .01	20.66 .00	57.79 + .02	58.01 .04	12.36 .05
30.5	20.36 - .87	1.47 - .05	10.69 - .09	15.09 - .06	20.65 - .03	57.78 - .05	58.04 + .01	12.39 + .02
Apr. 9.4	19.35 1.14	1.42 .07	10.57 .12	15.01 .10	20.61 .07	57.69 .10	58.03 - .03	12.40 - .01
19.4	18.09 1.37	1.33 .10	10.44 .15	14.90 .12	20.52 .10	57.58 .13	57.99 .06	12.37 .04
29.4	16.61 1.57	1.22 .11	10.27 .18	14.77 .14	20.42 .11	57.43 .17	57.92 .08	12.32 .07
May 9.3	14.96 1.72	1.11 .12	10.08 .20	14.63 .15	20.31 .13	57.24 .20	57.83 .09	12.24 .10
19.3	13.17 -1.84	0.99 - .12	9.88 - .21	14.47 - .16	20.17 - .14	57.03 - .21	57.75 - .10	12.15 - .11
29.3	11.28 1.92	0.87 .12	9.67 .20	14.32 .16	20.03 .15	56.82 .22	57.65 .11	12.04 .11
June 8.3	9.33 1.94	0.74 .11	9.48 .20	14.15 .16	19.87 .15	56.59 .22	57.53 .12	11.92 .12
18.2	7.41 -1.90	0.66 - .07	9.27 - .19	13.99 - .15	19.73 - .14	56.38 - .20	57.42 - .11	11.80 - .12
Mean Solar Date.	2 Can. Ven.	6 Urs. Min.	$\delta^2$ Corvi.	$\beta$ Can. Ven.	$\gamma$ Virginis, (mean.)	31 Cor. Bor.	$\gamma$ Cassiop., S. P.	43 Cephei, S. P.
	$48^{\circ} 42'$ h m 12 10	$1^{\circ} 39'$ h m 12 14	$105^{\circ} 52'$ h m 12 23	$48^{\circ} 1'$ h m 12 28	$90^{\circ} 49'$ h m 12 35	$61^{\circ} 50'$ h m 12 46	$330^{\circ} 5'$ h m 12 49	$355^{\circ} 38'$ h m 12 52
	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>
Feb. 9.6	20.34 + .27	31.42 +5.50	53.86 + .22	15.48 + .29	48.71 + .24	4.40 + .27	43.30 - .31	64.28 -2.34
19.6	20.59 .22	36.41 4.40	54.06 .19	15.75 .25	48.93 .19	4.65 .23	43.01 .24	62.13 1.96
29.6	20.78 .17	40.20 3.16	54.23 .16	15.97 .19	49.09 .15	4.85 .19	42.82 .17	60.38 1.52
Mar. 10.5	20.92 .11	42.69 1.80	54.37 .12	16.12 .13	49.23 .12	5.02 .15	42.67 .11	59.09 1.05
20.5	21.00 + .05	43.78 + .39	54.47 .07	16.22 .08	49.33 .09	5.14 .09	42.60 - .04	58.29 - .54
30.5	21.02 .00	43.47 -1.00	54.51 + .03	16.28 + .02	49.40 + .05	5.20 + .05	42.59 + .05	58.04 + .04
Apr. 9.5	21.01 - .04	41.79 2.35	54.53 .00	16.27 - .03	49.43 + .01	5.24 + .02	42.69 .14	58.37 .59
19.4	20.95 .07	38.84 3.57	54.52 - .02	16.23 .06	49.43 - .02	5.23 - .02	42.87 .21	59.19 1.07
29.4	20.85 .12	34.72 4.67	54.49 .05	16.15 .10	49.40 .04	5.20 .05	43.11 .29	60.52 1.56
May 9.4	20.71 .15	29.62 5.56	54.43 .07	16.03 .13	49.36 .06	5.13 .08	43.45 .36	62.30 1.98
19.4	20.56 - .16	23.70 -6.28	54.35 - .09	15.89 - .15	49.29 - .08	5.04 - .10	43.84 + .42	64.45 +2.33
29.3	20.40 .17	17.18 6.78	54.26 .10	15.73 .17	49.21 .09	4.93 .12	44.29 .47	66.94 2.62
June 8.3	20.22 .18	10.28 7.06	54.16 .11	15.56 .19	49.12 .10	4.81 .13	44.77 .51	69.64 2.79
18.3	20.04 - .17	3.17 -7.16	54.05 - .11	15.36 - .20	49.01 - .11	4.68 - .13	45.30 + .54	72.50 +2.90



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Mean Solar Date.	$\delta$ Muscæ.	$\epsilon$ Virginis.	20 Can. Ven.	$\kappa$ Octantis.	B.A.C.4536.	$m$ Virginis.	$\theta$ Apodis.	$\pi$ Hydræ.
	160° 55'	78° 25'	48° 49'	175° 11'	52° 13'	98° 7'	166° 14'	116° 7'
	$\begin{smallmatrix} h & m \\ 12 & 54 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 12 & 56 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 13 & 12 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 13 & 22 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 13 & 29 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 13 & 35 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 13 & 54 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 13 & 59 \end{smallmatrix}$
Feb. 29.6	$\begin{smallmatrix} s \\ 24.47 + .45 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 26.13 + .18 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 22.19 + .22 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 42.96 + 1.86 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 38.66 + .26 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 33.50 + .19 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 11.11 + .80 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 48.41 + .23 \end{smallmatrix}$
Mar. 10.6	24.86 .33	26.29 .15	22.39 .19	44.64 1.50	38.89 .20	33.68 .17	11.85 .69	48.63 .21
20.6	25.13 .23	26.42 .10	22.54 .13	45.96 1.13	39.05 .15	33.84 .15	12.48 .56	48.83 .18
30.5	25.32 .13	26.49 .06	22.65 .08	46.89 .74	39.18 .11	33.97 .12	12.97 .43	48.99 .15
Apr. 9.5	25.39 + .03	26.54 + .04	22.72 + .04	47.43 + .35	39.26 .06	34.07 .08	13.33 .30	49.12 .12
19.5	25.38 - .06	26.56 .00	22.73 .00	47.60 - .03	39.29 + .02	34.12 + .04	13.56 + .17	49.22 + .08
29.5	25.27 .14	26.54 - .03	22.71 - .04	47.37 .42	39.29 - .02	34.15 + .02	13.66 + .03	49.28 .05
May 9.4	25.09 .22	26.51 .05	22.64 .09	46.75 .80	39.25 .06	34.16 - .01	13.63 - .10	49.31 + .02
19.4	24.82 .30	26.45 .07	22.53 .12	45.76 1.14	39.17 .09	34.14 .03	13.46 .23	49.32 .00
29.4	24.49 .36	26.38 .09	22.41 .14	44.47 1.44	39.07 .12	34.10 .05	13.17 .34	49.30 - .03
June 8.4	24.10 - .43	26.28 - .10	22.26 - .16	42.87 - 1.75	38.94 - .14	34.04 - .06	12.78 - .46	49.26 - .06
18.3	23.64 .48	26.18 .11	22.10 .17	40.99 1.99	38.80 .15	33.98 .08	12.26 .56	49.18 .09
28.3	23.13 .50	26.06 .12	21.92 .19	38.92 2.16	38.64 .17	33.87 .11	11.66 .64	49.09 .11
July 8.3	22.64 - .49	25.94 - .11	21.73 - .19	36.67 - 2.32	38.46 - .18	33.76 - .12	10.99 - .70	48.97 - .12
Mean Solar Date.	$\delta$ Bootis.	$\kappa$ Virginis.	$\delta$ Octantis.	4 Urs. Min.	$\lambda$ Bootis.	$\lambda$ Virginis.	$\alpha$ Apodis.	$\mu$ Hydri, S. P.
	64° 22'	99° 44'	173° 8'	11° 54'	43° 23'	102° 50'	168° 33'	190° 23'
	$\begin{smallmatrix} h & m \\ 14 & 5 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 14 & 6 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 14 & 8 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 14 & 9 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 14 & 11 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 14 & 12 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 14 & 33 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 14 & 33 \end{smallmatrix}$
Mar. 20.6	$\begin{smallmatrix} s \\ 8.53 + .18 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 44.87 + .17 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 43.61 + 1.18 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 21.94 + .57 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 60.34 + .20 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 52.41 + .19 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 39.97 + .84 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 60.85 - .84 \end{smallmatrix}$
30.6	8.69 .14	45.03 .15	44.67 .94	22.42 .39	60.52 .16	52.58 .15	40.74 .70	60.10 .68
Apr. 9.5	8.80 .09	45.16 .12	45.49 1.68	22.72 .20	60.66 .11	52.71 .12	41.36 .55	59.52 .48
19.5	8.87 .06	45.25 .08	46.02 .40	22.82 + .02	60.74 .06	52.82 .09	41.84 .40	59.14 .30
29.5	8.92 + .03	45.31 .05	46.29 + .13	22.76 - .16	60.78 + .02	52.88 .06	42.16 .24	58.93 - .12
May 9.5	8.94 .00	45.34 + .03	46.28 - .15	22.50 - .35	60.77 - .03	52.93 + .03	42.31 + .08	58.92 + .09
19.4	8.93 - .04	45.36 .00	46.00 .41	22.07 .51	60.71 .08	52.94 .00	42.31 - .10	59.12 .30
29.4	8.88 .06	45.35 - .03	45.47 .66	21.50 .64	60.61 .12	52.94 - .02	42.12 .26	59.50 .47
June 8.4	8.81 .09	45.31 .06	44.67 .92	20.81 .75	60.48 .15	52.90 .05	41.79 .40	60.07 .66
18.3	8.71 .11	45.24 .08	43.64 1.13	20.01 .85	60.32 .17	52.85 .07	41.31 .55	60.81 .82
28.3	8.60 - .13	45.15 - .10	42.42 - 1.31	19.13 - .92	60.14 - .20	52.77 - .09	40.70 - .68	61.68 + .94
July 8.3	8.46 .14	45.05 .11	41.03 1.47	18.18 .98	59.92 .23	52.67 .11	39.95 .80	62.69 1.07
18.3	8.32 .15	44.94 .12	39.50 1.60	17.18 1.01	59.69 .24	52.55 .13	39.11 .88	63.81 1.15
28.2	8.16 - .15	44.81 - .12	37.84 - 1.72	16.17 - 1.00	59.45 - .24	52.42 - .13	38.20 - .93	64.97 + 1.16

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Mean Solar Date.	33 Bootis.	47 Cephei, S. P.	γ Scorpii.	δ Bootis.	ρ Octantis.	β Cor.Bor.	γ Camelop., S. P.	δ <sup>1</sup> Apodis.
	43° 6' h m 14 34	348° 57' h m 14 50	114° 50' h m 14 57	56° 15' h m 15 10	174° 4' h m 15 16	60° 30' h m 15 23	340° 58' h m 15 38	168° 24' h m 16 3
	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>
Mar. 30.6	33.22 + .19	41.95 - .50	19.66 + .19	51.52 + .19	61.18 +1.73	4.69 + .20	8.19 - .42	11.76 +1.09
Apr. 9.6	33.39 .14	41.55 .31	19.84 .17	51.70 .17	62.76 1.43	4.88 .18	7.84 .28	12.78 .95
19.5	33.50 .09	41.33 - .11	20.00 .15	51.86 .14	64.04 1.13	5.04 .15	7.62 .15	13.66 .81
29.5	33.57 + .05	41.34 + .12	20.14 .12	51.97 .09	65.02 .82	5.17 .11	7.53 - .03	14.39 .66
May 9.5	33.60 .00	41.56 .33	20.23 .08	52.04 .06	65.68 .50	5.26 .07	7.56 + .10	14.98 .52
19.5	33.58 - .05	42.01 + .55	20.29 + .05	52.09 + .03	66.01 + .16	5.31 + .04	7.72 + .23	15.42 + .34
29.4	33.51 .09	42.66 .74	20.33 + .02	52.09 - .01	66.01 - .17	5.33 .00	8.01 .35	15.67 + .17
June 8.4	33.40 .12	43.48 .89	20.33 - .02	52.06 .05	65.67 .51	5.31 - .03	8.42 .47	15.76 .00
18.4	33.28 .15	44.43 1.03	20.30 .04	51.99 .09	65.00 .81	5.27 .07	8.95 .56	15.66 - .19
28.4	33.11 .18	45.53 1.15	20.24 .07	51.89 .12	64.05 1.11	5.18 .10	9.54 .64	15.38 .37
July 8.3	32.92 - .21	46.72 +1.23	20.16 - .11	51.76 - .15	62.78 -1.38	5.07 - .12	10.23 + .71	14.93 - .51
18.3	32.69 .23	47.97 1.26	20.05 .13	51.60 .17	61.29 1.61	4.94 .15	10.96 .75	14.37 .65
28.3	32.46 .24	49.24 1.27	19.92 .14	51.43 .19	59.56 1.79	4.78 .17	11.72 .78	13.64 .78
Aug. 7.2	32.21 .25	50.53 1.27	19.76 .16	51.22 .21	57.71 1.89	4.60 .19	12.52 .80	12.81 .88
17.2	31.96 .25	51.79 1.25	19.60 .17	51.02 .21	55.79 1.93	4.40 .20	13.31 .79	11.89 .94
27.2	31.72 - .24	53.02 +1.22	19.42 - .17	50.81 - .20	53.85 -1.94	4.21 - .19	14.10 + .78	10.94 - .96
Mean Solar Date.	φ Herculis.	σ Cor. Bor. (mean.)	γ Apodis.	η Urs.Min.	η Ophiuchi.	π Herculis.	θ Ophiuchi.	δ Aræ.
	44° 46' h m 16 5	55° 51' h m 16 10	168° 38' h m 16 15	13° 59' h m 16 20	105° 35' h m 17 3	53° 4' h m 17 11	114° 53' h m 17 14	150° 35' h m 17 20
	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>
Apr. 9.6	8.64 + .24	21.93 + .21	51.06 +1.00	56.61 + .62	45.72 + .27	2.09 + .28	55.44 + .31	41.58 + .53
19.6	8.86 .20	22.13 .19	52.00 .88	57.17 .50	45.98 .25	2.36 .26	55.73 .27	42.08 .47
29.6	9.04 .16	22.30 .16	52.82 .74	57.60 .36	46.21 .22	2.60 .22	55.98 .24	42.52 .43
May 9.6	9.18 .12	22.44 .13	53.47 .57	57.89 .21	46.42 .19	2.79 .18	56.21 .22	42.94 .39
19.5	9.28 .07	22.55 .08	53.97 .42	58.01 + .04	46.59 .16	2.96 .15	56.41 .19	43.29 .32
29.5	9.32 + .02	22.60 + .04	54.30 + .24	57.98 - .10	46.74 + .14	3.09 + .11	56.59 + .16	43.58 + .26
June 8.5	9.32 - .03	22.63 + .02	54.44 + .04	57.80 .25	46.86 .10	3.17 .07	56.73 .13	43.81 .20
18.5	9.27 .08	22.62 - .02	54.39 - .14	57.48 .39	46.94 .07	3.22 + .03	56.84 .08	43.97 .12
28.4	9.17 .12	22.57 .07	54.17 .31	57.01 .53	46.99 + .03	3.23 - .02	56.89 + .04	44.05 + .04
July 8.4	9.03 .16	22.47 .12	53.77 .48	56.42 .65	46.99 - .01	3.18 .07	56.92 .00	44.05 - .04
18.4	8.86 - .20	22.34 - .15	53.21 - .64	55.71 - .75	46.95 - .05	3.09 - .11	56.89 - .05	43.98 - .11
28.3	8.64 .23	22.18 .18	52.50 .78	54.93 .82	46.88 .09	2.96 .16	56.83 .09	43.83 .19
Aug. 7.3	8.40 .25	21.99 .20	51.67 .88	54.07 .88	46.78 .12	2.78 .20	56.71 .13	43.60 .25
17.3	8.15 .27	21.79 .22	50.75 .95	53.16 .93	46.65 .15	2.57 .22	56.57 .15	43.33 .31
27.3	7.86 .28	21.55 .23	49.78 .99	52.21 .95	46.49 .17	2.34 .24	56.41 .17	42.98 .36
Sept. 6.2	7.58 - .28	21.32 - .23	48.77 -1.00	51.26 - .95	46.32 - .18	2.10 - .25	56.23 - .19	42.61 - .37
16.2	7.30 .27	21.09 .23	47.79 .96	50.31 .92	46.13 .18	1.85 .25	56.03 .20	42.24 .38
26.2	7.04 .25	20.86 .23	46.87 .88	49.43 .85	45.95 .17	1.60 .24	55.84 .19	41.85 .37
Oct. 6.2	6.81 - .22	20.62 - .22	46.05 - .76	48.61 - .78	45.80 - .14	1.37 - .23	55.66 - .18	41.50 - .34



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Mean Solar Date.	Groombr. 944, S.P.	ι Herculis.	θ Herculis.	ο Herculis.	λ Sagittarii.	χ Draconis.	ζ Pavonis.	γ Lyrae.
	355° 8' h m 17 24	43° 56' h m 17 36	52° 44' h m 17 52	61° 15' h m 18 3	115° 29' h m 18 20	17° 19' h m 18 23	161° 31' h m 18 29	57° 28' h m 18 54
May 19.6	51.96 - .48	14.06 + .18	18.98 + .19	3.56 + .18	51.74 + .22	12.18 + .42	35.14 + .62	38.65 + .25
29.6	51.70 - .04	14.22 .14	19.15 .15	3.73 .16	51.96 .21	12.54 .30	35.72 .54	38.88 .21
June 8.6	51.88 + .41	14.34 .09	19.28 .11	3.88 .13	52.17 .19	12.78 .18	36.23 .45	39.07 .18
18.5	52.55 .89	14.39 + .04	19.37 .07	3.99 .09	52.34 .15	12.91 + .06	36.61 .32	39.24 .14
28.5	53.63 1.29	14.41 - .01	19.41 + .03	4.05 + .05	52.47 .11	12.91 - .06	36.89 .21	39.35 .09
July 8.5	55.14 + 1.70	14.36 - .08	19.42 - .02	4.08 .00	52.55 + .06	12.78 - .20	37.03 + .08	39.42 + .05
18.5	57.02 2.03	14.26 .13	19.36 .08	4.06 - .05	52.58 + .01	12.52 .32	37.06 - .03	39.45 .00
28.4	59.18 2.31	14.11 .17	19.26 .13	3.99 .09	52.57 - .03	12.16 .42	36.96 .16	39.42 - .06
Aug. 7.4	61.65 2.58	13.92 .22	19.11 .16	3.88 .13	52.52 .08	11.67 .54	36.74 .28	39.34 .10
17.4	64.31 2.76	13.68 .25	18.94 .19	3.73 .17	52.41 .12	11.10 .61	36.40 .39	39.23 .14
27.3	67.16 + 2.91	13.42 - .28	18.73 - .23	3.55 - .19	52.28 - .15	10.45 - .69	35.95 - .49	39.07 - .17
Sept. 6.3	70.12 2.99	13.13 .30	18.49 .25	3.35 .21	52.11 .17	9.73 .74	35.44 .55	38.89 .20
16.3	73.13 3.00	12.83 .31	18.24 .26	3.13 .22	51.93 .19	8.97 .78	34.85 .61	38.66 .22
26.3	76.12 2.97	12.52 .30	17.98 .26	2.90 .23	51.73 .20	8.18 .80	34.24 .62	38.44 .23
Oct. 6.2	79.07 2.90	12.23 .28	17.72 .25	2.67 .22	51.53 .19	7.38 .79	33.62 .61	38.20 .23
16.2	81.91 + 2.76	11.96 - .26	17.47 - .24	2.46 - .22	51.34 - .19	6.60 - .77	33.03 - .57	37.97 - .22
Mean- Solar Date.	ι Lyrae.	25 Camelop. S. P.	θ Lyrae.	β Cygni.	β Sagittae.	δ Cygni.	Groombr. 1374, S.P.	ε Pavonis.
	54° 5' h m 19 3	352° 38' h m 19 6	52° 4' h m 19 12	62° 17' h m 19 26	72° 48' h m 19 35	45° 9' h m 19 41	344° 14' h m 19 46	163° 13' h m 19 47
May 29.6	12.38 + .24	33.75 - .68	23.07 + .24	5.14 + .24	52.85 + .25	23.58 + .28	16.65 - .39	15.91 + .75
June 8.6	12.60 .19	33.21 .40	23.29 .20	5.37 .21	53.08 .21	23.84 .24	16.32 .27	16.62 .67
18.6	12.76 .15	32.95 - .11	23.47 .16	5.56 .18	53.27 .18	24.06 .20	16.12 .14	17.25 .57
28.5	12.89 .10	32.99 + .18	23.60 .11	5.72 .13	53.45 .15	24.23 .15	16.04 - .01	17.76 .45
July 8.5	12.96 + .05	33.31 .46	23.68 .06	5.82 .08	53.57 .11	24.35 .09	16.10 + .13	18.14 .32
18.5	12.98 .00	33.91 + .74	23.72 + .02	5.88 + .04	53.64 + .06	24.41 + .03	16.28 + .24	18.40 + .19
28.5	12.96 - .05	34.79 1.00	23.71 - .04	5.80 - .01	53.68 + .02	24.41 - .03	16.59 .38	18.52 + .05
Aug. 7.4	12.89 .10	35.88 1.20	23.64 .10	5.86 .06	53.67 - .03	24.36 .08	17.03 .49	18.51 - .08
17.4	12.77 .14	37.19 1.42	23.52 .14	5.78 .10	53.62 .08	24.25 .13	17.56 .58	18.34 .21
27.4	12.62 .18	38.71 1.62	23.37 .18	5.66 .14	53.53 .11	24.10 .18	18.18 .68	18.07 .33
Sept. 6.3	12.42 - .21	40.41 + 1.76	23.17 - .21	5.50 - .17	53.40 - .14	23.89 - .22	18.92 + .78	17.67 - .46
16.3	12.20 .23	42.22 1.86	22.94 .24	5.32 .20	53.24 .17	23.65 .25	19.73 .84	17.15 .56
26.3	11.95 .24	44.12 1.95	22.69 .26	5.11 .22	53.07 .18	23.40 .27	20.60 .90	16.56 .62
Oct. 6.3	11.71 .25	46.11 2.02	22.43 .26	4.89 .22	52.88 .19	23.11 .28	21.52 .94	15.91 .66
16.2	11.46 .24	48.14 2.01	22.18 .25	4.67 .21	52.68 .20	22.83 .29	22.48 .96	15.24 .67
26.2	11.22 - .22	50.14 + 1.97	21.93 - .24	4.48 - .20	52.49 - .18	22.54 - .29	23.43 + .96	14.57 - .66
Nov. 5.2	11.02 - .19	52.07 + 1.92	21.71 - .21	4.28 - .19	52.33 - .15	22.26 - .28	24.40 + .97	13.93 - .62

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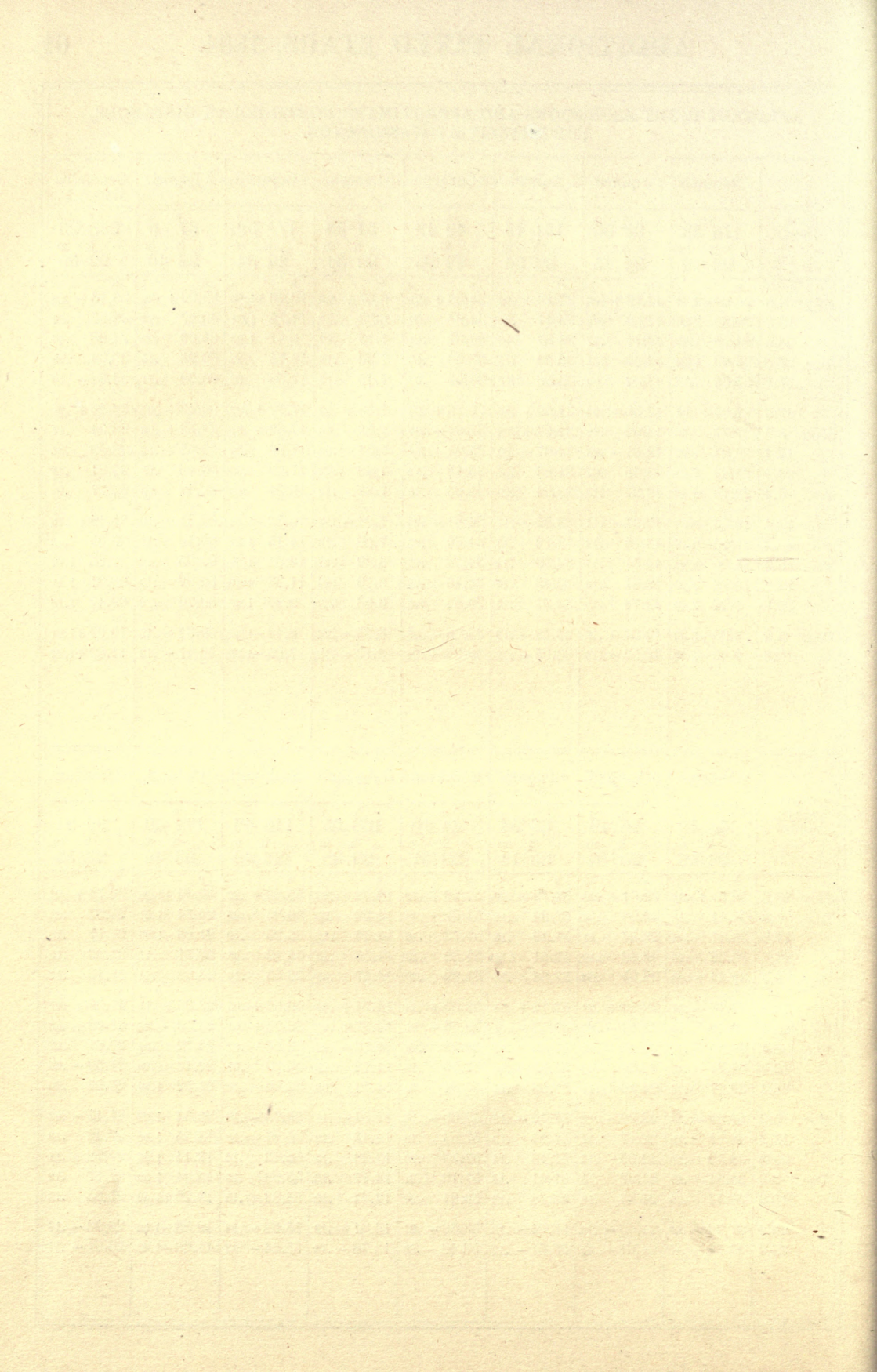
Mean Solar Date.	γ Sagittæ.	ε Sagittarii.	θ Aquilæ.	ο <sup>1</sup> Cygni.	α Delphini.	β Pavonis.	ψ Capricor.	ε Cygni.
	70° 49'	118° 2'	91° 10'	43° 37'	74° 30'	156° 37'	115° 41'	56° 28'
	<sub>h m</sub> 19 53	<sub>h m</sub> 19 55	<sub>h m</sub> 20 5	<sub>h m</sub> 20 9	<sub>h m</sub> 20 34	<sub>h m</sub> 20 34	<sub>h m</sub> 20 39	<sub>h m</sub> 20 41
June 18.6	<sup>s</sup> 38.83 + .20	<sup>s</sup> 34.72 + .26	<sup>s</sup> 22.09 + .19	<sup>s</sup> 61.84 + .22	<sup>s</sup> 17.84 + .24	<sup>s</sup> 34.50 + .54	<sup>s</sup> 16.50 + .26	<sup>s</sup> 33.96 + .25
	28.6 39.01 .16	34.95 .20	22.27 .18	62.04 .18	18.03 .20	34.99 .44	16.75 .24	34.19 .21
July 8.5	39.15 .12	35.11 .15	22.44 .15	62.20 .14	18.20 .16	35.38 .35	16.97 .20	34.37 .17
	18.5 39.25 .07	35.25 .11	22.56 .10	62.31 + .07	18.34 .12	35.69 .26	17.14 .15	34.52 .12
	28.5 39.29 + .03	35.33 + .06	22.63 .05	62.35 .00	18.43 .07	35.90 .16	17.27 .10	34.61 .06
Aug. 7.5	39.30 - .01	35.37 .00	22.66 + .01	62.32 - .05	18.47 + .03	36.01 + .05	17.34 + .05	34.64 + .01
	17.4 39.27 .06	35.34 - .05	22.65 - .03	62.23 .10	18.48 - .02	36.00 - .06	17.37 .00	34.64 - .03
	27.4 39.18 .11	35.28 .09	22.60 .08	62.11 .15	18.44 .07	35.90 .15	17.35 - .04	34.59 .08
Sept. 6.4	39.06 .13	35.17 .13	22.50 .11	61.94 .20	18.35 .10	35.69 .25	17.29 .08	34.49 .12
	16.4 38.92 .16	35.03 .16	22.38 .14	61.71 .24	18.25 .13	35.40 .33	17.18 .12	34.35 .16
Oct. 6.3	26.3 38.74 - .18	34.85 - .18	22.23 - .16	61.46 - .26	18.10 - .16	35.03 - .40	17.04 - .16	34.18 - .18
	16.3 38.56 .19	34.67 .19	22.07 .17	61.19 .28	17.94 .17	34.60 .45	16.87 .18	33.99 .21
	16.3 38.37 .20	34.47 .20	21.90 .17	60.90 .29	17.77 .18	34.14 .48	16.69 .19	33.78 .22
	26.2 38.17 .19	34.28 .19	21.73 .17	60.62 .29	17.59 .17	33.65 .48	16.50 .19	33.56 .21
Nov. 5.2	37.99 .17	34.10 .17	21.56 .16	60.33 .28	17.42 .16	33.18 .46	16.32 .18	33.35 .20
	15.2 37.83 - .14	33.95 - .14	21.42 - .13	60.07 - .26	17.26 - .15	32.73 - .43	16.15 - .17	33.15 - .19
	25.2 37.72 - .09	33.82 - .11	21.31 - .10	59.82 - .24	17.12 - .13	32.32 - .38	15.99 - .15	32.96 - .18
Mean Solar Date.	τ Cygni.	ζ Capricor.	74 Cygni.	λ <sup>1</sup> Octantis.	ζ Chamæ- leontis, S.P.	π <sup>2</sup> Cygni.	16 Pegasi.	π Pegasi.
	52° 27'	112° 55'	50° 6'	173° 15'	189° 35'	41° 14'	64° 37'	57° 13'
	<sub>h m</sub> 21 10	<sub>h m</sub> 21 20	<sub>h m</sub> 21 32	<sub>h m</sub> 21 33	<sub>h m</sub> 21 37	<sub>h m</sub> 21 42	<sub>h m</sub> 21 47	<sub>h m</sub> 22 4
July 8.6	<sup>s</sup> 13.02 + .19	<sup>s</sup> 5.77 + .21	<sup>s</sup> 21.37 + .22	<sup>s</sup> 10.63 +1.32	<sup>s</sup> 11.28 - .82	<sup>s</sup> 34.09 + .26	<sup>s</sup> 50.20 + .22	<sup>s</sup> 53.38 + .25
	18.6 13.19 .15	5.97 .19	21.57 .18	11.84 1.08	10.56 .66	34.32 .20	50.40 .18	53.61 .20
	28.5 13.31 .10	6.14 .15	21.72 .13	12.78 .80	10.00 .46	34.48 .14	50.56 .14	53.78 .16
Aug. 7.5	13.39 + .05	6.26 .09	21.81 .07	13.41 .46	9.70 .23	34.60 .08	50.68 .10	53.93 .12
	17.5 13.41 .00	6.32 + .04	21.86 + .02	13.70 + .12	9.58 - .04	34.64 + .02	50.75 + .05	54.02 .07
Sept. 6.4	27.5 13.38 - .06	6.34 .00	21.86 - .03	13.66 - .21	9.67 + .20	34.64 - .02	50.78 .00	54.06 + .02
	16.4 13.29 .10	6.32 - .04	21.81 .08	13.28 .55	10.04 .47	34.60 .08	50.76 - .04	54.05 - .03
	16.4 13.18 .14	6.26 .09	21.70 .13	12.56 .88	10.62 .65	34.48 .14	50.71 .08	54.01 .07
Oct. 6.4	26.4 13.02 .17	6.13 .13	21.56 .16	11.55 1.15	11.38 .84	34.32 .19	50.61 .12	53.92 .11
	16.4 12.84 .20	6.00 .15	21.39 .19	10.27 1.40	12.37 1.05	34.10 .22	50.48 .13	53.80 .14
Nov. 5.3	16.3 12.62 - .21	5.85 - .16	21.19 - .21	8.76 -1.58	13.53 +1.19	33.88 - .23	50.35 - .15	53.65 - .16
	26.3 12.41 .22	5.68 .17	20.97 .22	7.12 1.69	14.81 1.29	33.64 .25	50.18 .17	53.49 .17
	15.2 12.19 .22	5.51 .17	20.75 .22	5.38 1.75	16.15 1.35	33.37 .27	50.01 .18	53.31 .18
	15.2 11.97 .21	5.35 .16	20.53 .21	3.63 1.74	17.55 1.37	33.10 .27	49.83 .17	53.13 .19
	25.2 11.78 .19	5.20 .14	20.33 .21	1.91 1.66	18.91 1.32	32.83 .26	49.67 .15	52.94 .18
Dec. 5.2	11.59 - .18	5.07 - .12	20.12 - .20	0.32 -1.52	20.23 +1.26	32.58 - .24	49.53 - .13	52.77 - .16



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Mean Solar Date.	$\nu$ Octantis.	$\gamma$ Aquarii.	$\sigma$ Aquarii.	$\alpha$ Lacertæ.	10 Lacertæ.	$\beta$ Octantis.	$\lambda$ Pegasi.	Groombr. 1706, S.P.
	176° 33'	91° 58'	101° 16'	40° 19'	51° 33'	171° 59'	67° 3'	348° 23'
	$\begin{smallmatrix} h & m \\ 22 & 9 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 15 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 24 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 26 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 34 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 34 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 40 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 22 & 50 \end{smallmatrix}$
July 8.6	$\begin{smallmatrix} s \\ 20.34 + 2.72 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 42.76 + .25 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 33.23 + .26 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 34.38 + .31 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 6.67 + .28 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 13.46 + 1.36 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 59.62 + .26 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 35.16 - .68 \end{smallmatrix}$
18.6	22.80 2.38	42.99 .21	33.47 .22	34.67 .27	6.93 .24	14.75 1.21	59.87 .24	34.55 .54
28.6	24.98 1.92	43.17 .17	33.67 .19	34.91 .21	7.15 .20	15.87 1.00	60.09 .20	34.08 .40
Aug. 7.5	26.60 1.34	43.32 .14	33.84 .15	35.08 .15	7.33 .16	16.75 .76	60.26 .15	33.74 .28
17.5	27.65 .74	43.44 .09	33.96 .10	35.20 .09	7.46 .10	17.38 .50	60.39 .11	33.52 - .14
27.5	28.04 + .06	43.50 + .04	34.03 + .06	35.26 + .04	7.53 + .05	17.74 + .22	60.48 + .07	33.46 + .01
Sept. 6.5	27.77 - .60	43.52 .00	34.07 + .02	35.28 - .01	7.56 .00	17.82 - .07	60.52 + .02	33.54 .17
16.4	26.84 1.23	43.51 - .03	34.07 - .02	35.24 .07	7.54 - .04	17.60 .36	60.52 - .02	33.80 .34
26.4	25.32 1.82	43.46 .07	34.03 .07	35.13 .12	7.48 .09	17.09 .63	60.48 .05	34.21 .48
Oct. 6.4	23.19 2.40	43.37 .10	33.94 .09	35.00 .16	7.37 .12	16.34 .89	60.42 .09	34.77 .62
16.4	20.55 - 2.84	43.27 - .11	33.85 - .11	34.81 - .20	7.24 - .14	15.33 - 1.08	60.31 - .12	35.45 + .76
26.3	17.53 3.18	43.15 .13	33.72 .13	34.60 .23	7.09 .16	14.15 1.27	60.19 .13	36.30 .90
Nov. 5.3	14.20 3.42	43.01 .14	33.59 .14	34.36 .25	6.92 .18	12.81 1.39	60.05 .14	37.25 1.01
15.3	10.72 3.50	42.87 .14	33.45 .14	34.10 .26	6.72 .20	11.37 1.46	59.92 .15	38.31 1.11
25.3	7.22 3.48	42.74 .13	33.31 .14	33.84 .26	6.53 .20	9.89 1.47	59.76 .16	39.47 1.18
Dec. 5.2	3.80 - 3.32	42.61 - .12	33.18 - .13	33.58 - .25	6.33 - .20	8.44 - 1.42	59.61 - .15	40.67 + 1.21
15.2	0.63 - 3.00	42.50 - .10	33.05 - .12	33.33 - .24	6.13 - .19	7.05 - 1.35	59.47 - .13	41.89 + 1.22
Mean Solar Date.	$\alpha$ Androm.	$\phi$ Aquarii.	$\tau$ Pegasi.	$\lambda$ Androm.	$\epsilon^1$ Aquarii.	$\delta$ Sculptoris.	$\gamma^1$ Octantis.	33 Piscium.
	48° 18'	96° 40'	66° 54'	44° 10'	108° 55'	118° 46'	172° 40'	96° 21'
	$\begin{smallmatrix} h & m \\ 22 & 56 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 8 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 14 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 31 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 38 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 42 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 45 \end{smallmatrix}$	$\begin{smallmatrix} h & m \\ 23 & 59 \end{smallmatrix}$
July 28.6	$\begin{smallmatrix} s \\ 38.91 + .22 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 22.01 + .20 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 57.13 + .20 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 57.26 + .28 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 13.98 + .26 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 55.80 + .27 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 19.45 + 1.36 \end{smallmatrix}$	$\begin{smallmatrix} s \\ 26.74 + .24 \end{smallmatrix}$
Aug. 7.6	39.11 .18	22.20 .18	57.32 .18	57.52 .24	14.22 .21	56.05 .23	20.74 1.21	26.97 .22
17.6	39.27 .14	22.36 .14	57.49 .15	57.73 .18	14.40 .17	56.25 .19	21.86 1.00	27.17 .18
27.5	39.38 .09	22.48 .10	57.61 .10	57.88 .13	14.56 .13	56.42 .15	22.71 .71	27.33 .15
Sept. 6.5	39.44 + .03	22.55 .06	57.68 .06	57.99 .09	14.67 .09	56.55 .10	23.28 .41	27.46 .11
16.5	39.46 - .01	22.59 + .02	57.72 + .03	58.05 + .04	14.74 + .05	56.62 + .05	23.53 + .11	27.55 + .07
26.4	39.42 .05	22.59 - .02	57.73 - .01	58.06 - .01	14.77 + .01	56.65 + .01	23.50 - .20	27.60 + .03
Oct. 6.4	39.33 .10	22.56 .05	57.69 .05	58.03 .06	14.76 - .03	56.65 - .03	23.12 .52	27.61 .00
16.4	39.21 .13	22.50 .08	57.63 .08	57.95 .10	14.72 .06	56.59 .07	22.46 .80	27.59 - .03
26.4	39.07 .16	22.40 .11	57.53 .11	57.84 .13	14.64 .09	56.50 .10	21.52 1.06	27.55 .06
Nov. 5.3	38.90 - .18	22.29 - .12	57.42 - .12	57.69 - .16	14.54 - .11	56.39 - .12	20.34 - 1.29	27.47 - .09
15.3	38.71 .19	22.17 .12	57.29 .13	57.53 .18	14.43 .12	56.27 .13	18.95 1.46	27.38 .10
25.3	38.52 .20	22.05 .13	57.15 .14	57.33 .20	14.30 .13	56.13 .14	17.44 1.56	27.28 .11
Dec. 5.3	38.31 .21	21.92 .13	57.01 .14	57.13 .21	14.17 .13	55.98 .15	15.84 1.62	27.17 .12
15.2	38.11 .20	21.80 .12	56.88 .13	56.91 .22	14.04 .13	55.83 .15	14.20 1.63	27.05 .12
25.2	37.92 - .20	21.69 - .10	56.74 - .13	56.69 - .21	13.91 - .13	55.68 - .14	12.58 - 1.58	26.93 - .12
35.2	37.72 - .19	21.61 - .07	56.61 - .12	56.48 - .20	13.78 - .13	55.54 - .13	11.06 - 1.45	26.81 - .11



























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